

American Cinematographer



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Inside: Photography for *Passage to India*
Robby Müller and *Paris, Texas*



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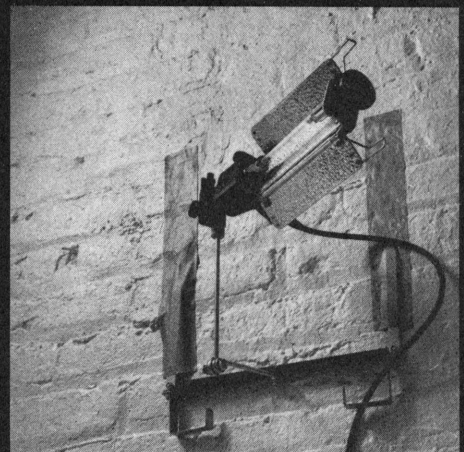
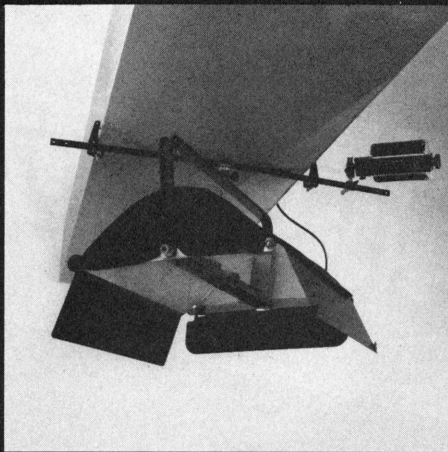
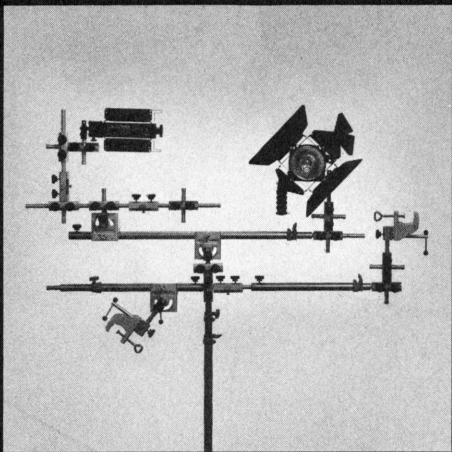
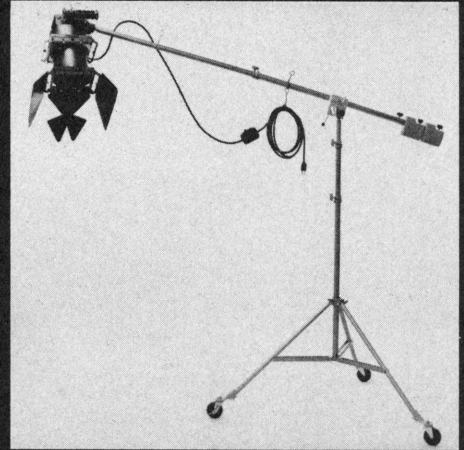
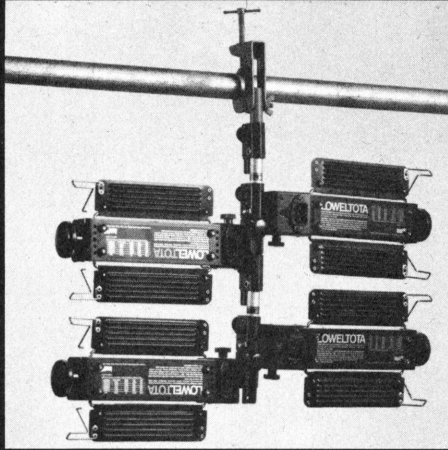
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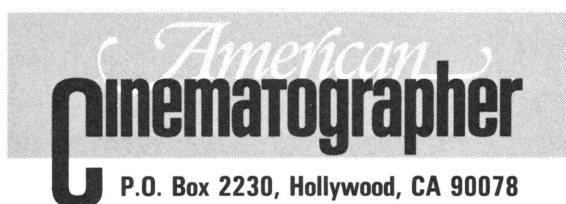
On Our Cover:
Peggy Ashcroft as Mrs. Moore and Victor Banerjee as Dr. Aziz on their way to the Marabar caves in David Lean's adaptation *A Passage to India* photographed by Ernest Day, BSC.

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From the Editor

PRODUCTION personnel often assume that the exhibition process is a totally separate part of the industry in which they are not involved. This magazine, as well, generally limits its editorial scope to the techniques of production rather than distribution and exhibition, but it is naive to think that the realities of distribution and exhibition are irrelevant to production. Cinematographers viewing their work in the neighborhood theaters or on their home television sets, are often appalled by what has happened to it.

Refinements in production techniques aimed at improving image quality are pointless if that quality cannot be preserved beyond the studio screening room. A certain amount of image degradation is inevitable in any form of reproduction, distribution and exhibition, and a responsible cinematographer takes this into consideration during production; but this natural loss is miniscule in comparison to the image degradation so often caused by laziness, incompetence, miscommunication or cost cutting.

The theater that adopts a "compromise" screen aspect ratio of 2:1 and consistently fills it by cropping sides on an anamorphic print or top and bottom on a flat print is mangling the work of the cinematographer. A film-to-tape transfer facility that makes no attempt to preserve the cinematographer's intentions can subvert the efforts of an entire crew. More and more producers are delivering filmed programs to the networks on videotape rather than film so that they can protect the look of the show by assuming responsibility for the film-to-tape transfer. Once a film image has been transferred to tape properly there is much less chance that it will be altered when it is re-recorded or broadcast. Any cinematographer who cares about his work should insist on participating in the film-to-tape transfer process just as he would insist on participating in the timing of an answer print.

Controlling the way in which release prints are projected in theaters is a much more difficult task and can only be achieved by cooperation and collective action. The SMPTE theater evaluation program is an excellent step in the right direction. Exhibitors have got to know that someone cares. If they are convinced their audiences cannot tell the difference, then perhaps the distributors need to provide the incentive by giving priority in bookings to theaters which are up to specs. Obviously the distributor is only going to do this if the production community makes it clear that quality exhibition is an essential extension of the production process. The image is not completely realized until it is on a screen in front of the audience for whom it was produced. Just as poor production values can undermine a good script, poor exhibition can destroy the most lavish production values.

—RICHARD PATTERSON

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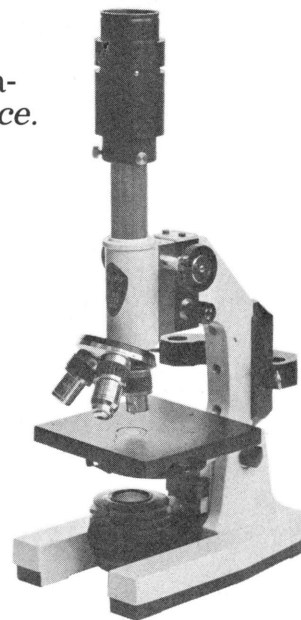
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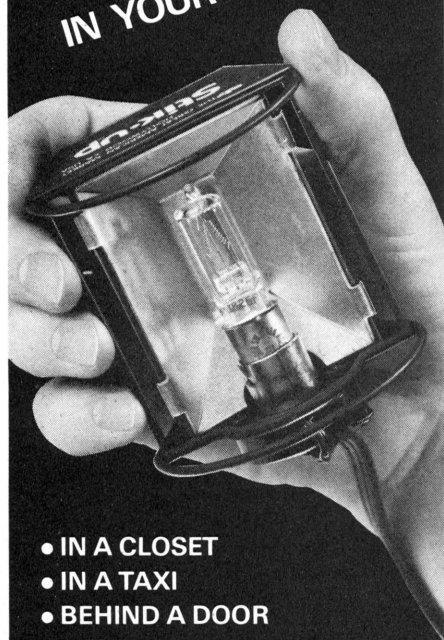
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Letters

Black Cat Rebuttal

A minor correction to my *DUNE* coverage in the December issue. Duncan Idaho is the name of a character and not a location for the film, the result of a transcription error.

In response to a letter from William Rosar regarding my piece on *The Black Cat* (October issue): I'm afraid that he has deluded himself with his own "flights of fancy," in believing that the published contents of my article contained excerpts from his "unpublished monograph", which I have never seen nor had access to. Specifically, he attempts to take credit for details regarding Ulmer, the music, the Black Mass litany, "etc." To set the record straight, all personal information about the director was gleaned from his gracious widow Shirley Ulmer, and from his sister Elly who resides in New York. Music cue sheets on the film were provided by Sara Kerber of ASCAP-New York, and all musical analyses were mine. The litany was deciphered (with great difficulty, I might add) by the chairman of the Brooklyn College Latin Department in 1978. It's rather sad when some character not only tries to undermine the "veracity" of ten years of carefully orchestrated research, but also the "judgment" of *American Cinematographer* in showcasing this work.

—Paul Mandell
New York City

Cat Continued

I want to thank you for publishing the Ulmer/Black Cat article in your October issue. Paul Mandell is indeed an amazing young man. His research as well as talented writing have been the cause of my being deluged with calls out here about him.

Having script supervised all of Ulmer's films since 1934 (as well as being his widow), what pleased me so much was the accuracy of the piece.

—Shirley Ulmer
Beverly Hills, CA

About 'Scope

In the November '84 issue I read with great interest the description of Iscovision. This seems to be the most realistic anamorphic system. I have wondered for years why 1.5 compression and 2x1 aspect ratio was not standardized as opposed to 2x1 squeeze and 2.35x1 format. After all there are very, very few theaters that project 'scope over a screen wider than 2x1 and nothing is gained (but a great deal lost during pan-and-scan) by having a wider picture that is cropped by almost all exhibitors. The 2x1 ratio would scan easier with less image list, would fit the majority of screens much better and would have less grain and optical distortion. The only change to the taking camera would be the anamorphic unit as the use of a 1.33x1 aperture would render the 2x1 ratio. (I wonder what ratio aperture Iscovision would employ. A 'scope 1.18 plate would render a 1.77x1 ratio using a 1.5 compression, not a 1.85x1 image.)

The use of 1.5 compression is hardly new in film making. Loren L. Ryder developed a 'scope version of VistaVision optically extracted from the lazy 8 original) using 1.5 and 2x1 ratio. Paramount struck a deal with Super-Scope for use of their variable anamorphic projection units since a fixed 'scope lens at 1.5 compression was not then available. Few, if any, VistaVision features were issued in this format, though at least the first couple were supposedly made available if never actually exhibited. MGM released at least one feature, *Forbidden Planet*, in Scanoscope, a 2x1 ratio, 1.5 compres-

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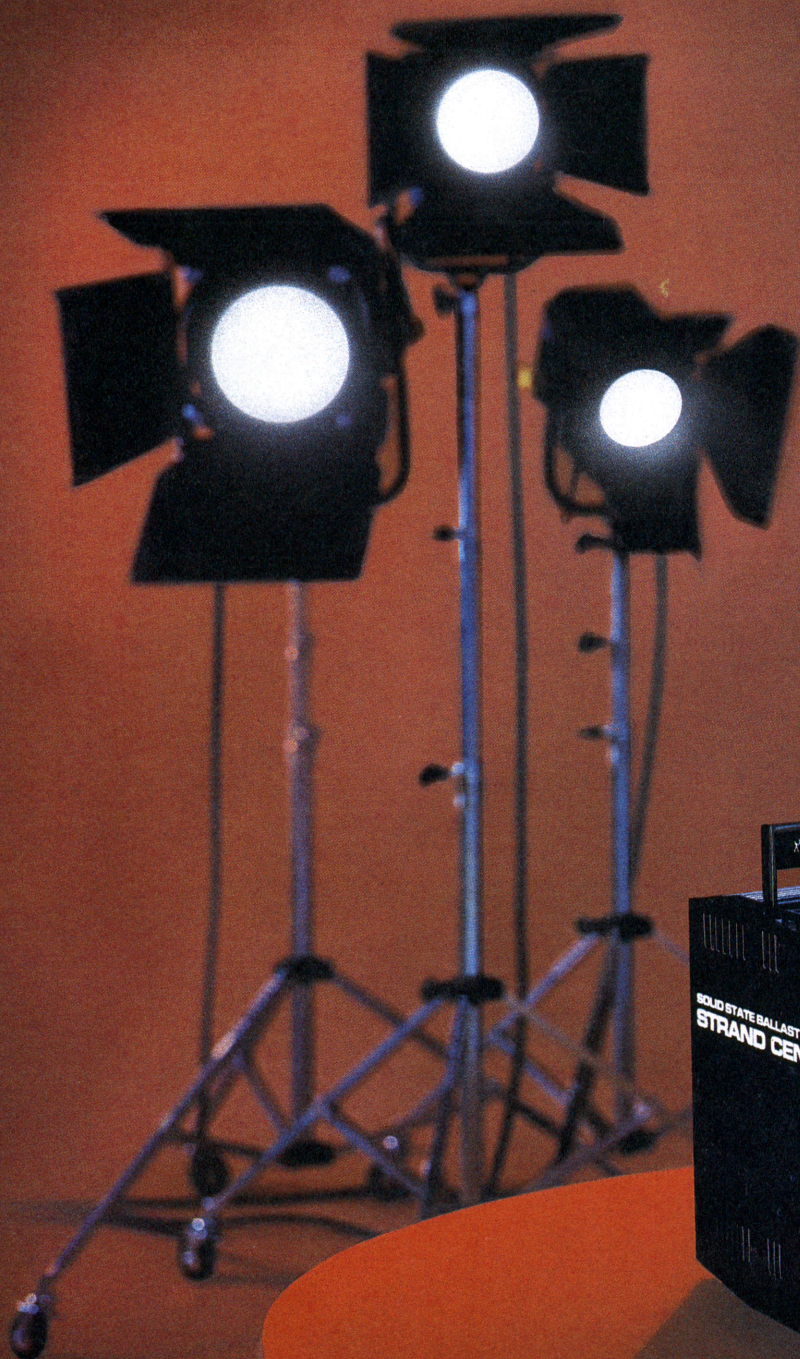
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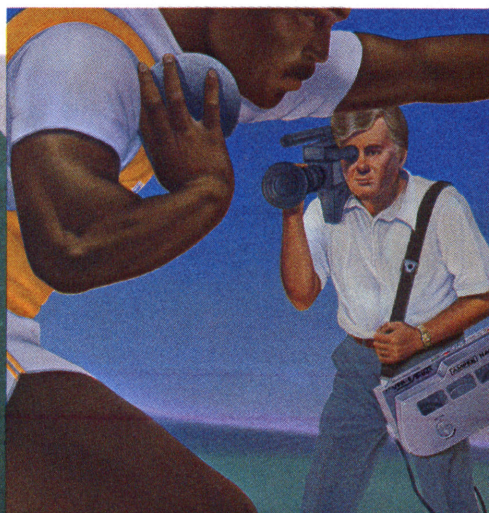
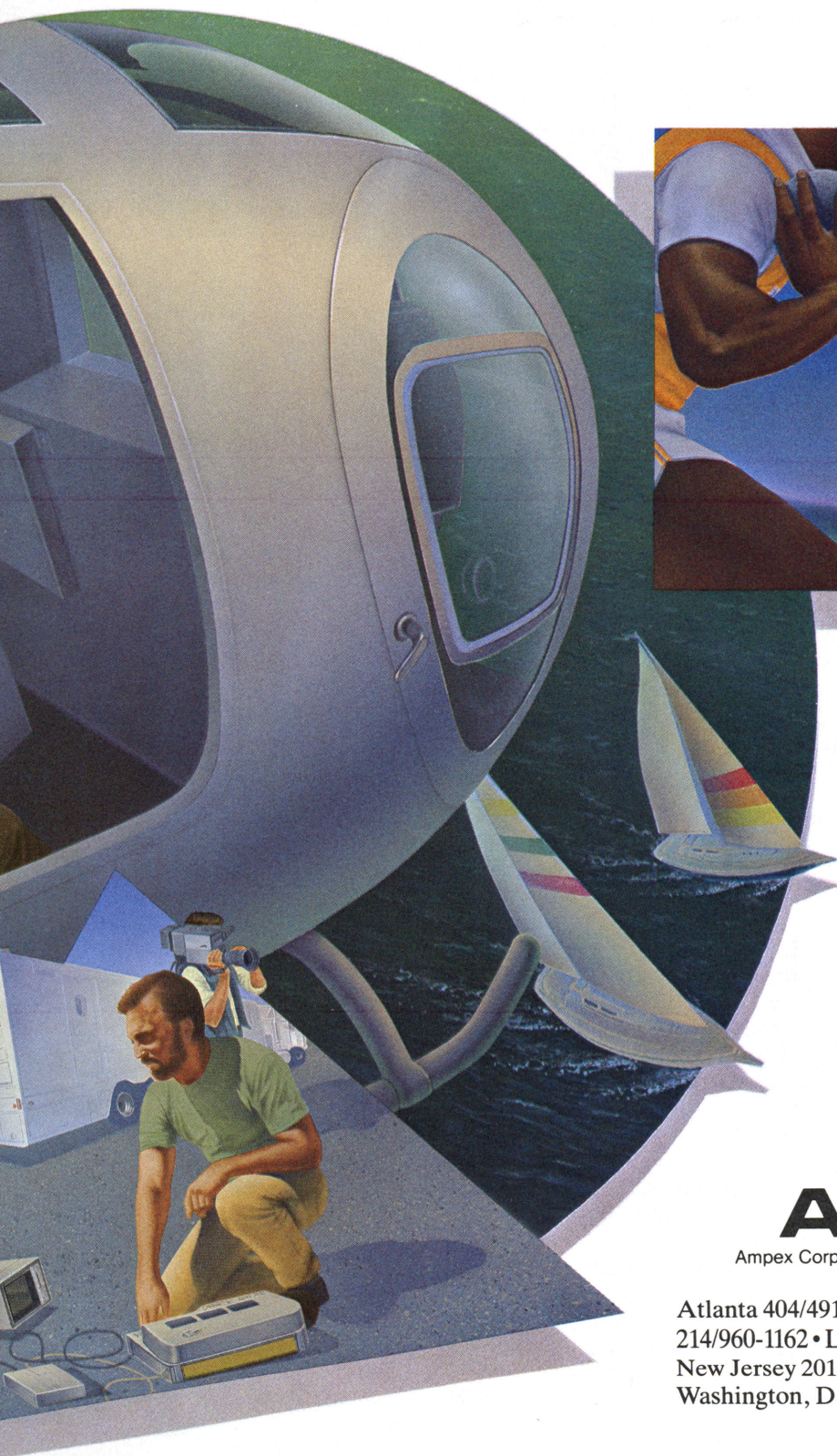
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sion image extracted from the Cinema-Scope (actually Panavision lenses were used) original. As late as 1975 one considerably faded but still in rather good mechanical shape Scanscope print existed. (The tradename Scanscope was also applied to a full 2x1 squeeze lens rented by F&B/Ceco at one time.) MGM Labs and De Luxe have for many years been optically converting full 'scope main and end titles to 1.5 compression for television and non-theatrical prints. Since the early 50s 1.5 anamorphic units have been available for 8mm and 16mm filmmakers.

Frankly, I would like to see 2x1 compression done away with entirely and replaced with 1.5. It makes sense down the line. (or up the line as 70mm blowups would be better.)

—R.M. Hayes
Atlanta, GA

Super Formats

Richard Kreuger's comments regarding the advertising of picture and sound formats (Letters, Nov. 84) are justified. But the real problem is that most of the public doesn't know the difference between one format and another. The print advertising for Touchstone's *Country* said "Filmed in Panavision" even though it was not (apparently the publicists mistook the camera credit for the process name). Yet I didn't see anyone storm out of the theater.

I attended a screening of *The Right Stuff* which was advertised as 70mm. The 70mm print didn't arrive on time so 35mm was run for that show. Did anyone besides me seem to notice? No, and why should they? Although it's a wonderful film, *The Right Stuff* was filmed in 35 flat. Almost every 70mm film made in the last decade has been a mere blow-up of 35mm anamorphic or flat. The 70mm print might extract a little more resolution from the small negative and of course the 6 track sound is there but that's all. It's little better than a 35mm print.

There is just no comparison between the blow-up print and one made from a 65mm original. The 65mm frame has 2.6 times the area of a 35mm scope frame and a whopping 4.5 times the area of a 1.85 flat frame. That happens to be a greater difference than between Super 16 and 35mm

(about 3.2 if both are 1.85 ratio).

It is quite ironic that although there are now more theaters equipped for 70mm than ever, no one is bothering to make true 70mm films. With all of the talk about how the quality of the theatrical viewing experience is what gives it the edge over cable and home video, I would think that more than a few enterprising filmmakers would try shooting in 65mm. This would give you an image worth advertising. New processes such as Showscan and StereoSpace may be the way of the future but it will be years before enough theaters are equipped. Meanwhile, one of the oldest processes is practically unused in spite of the numbers of theaters equipped for it.

Of course 65mm is not without its drawbacks. True, it's expensive but the added costs are only a small fraction of the budget of a major feature. Yes, the cameras are bulky compared to the latest 35mm equipment but one can't expect a truly state-of-the-art 65mm camera to be designed before more use is made of the format. Fortunately, lenses are no hindrance because if necessary medium format still lenses can be adapted. HMI lights and today's faster films make depth of field much less of a problem with the longer lenses the format requires. Producers who enjoy the flexibility offered by the present blow-up process (where the decision to release in 70mm can be made quite late in post-production) should realize that filming in 65mm does not obligate a 70mm release. If marketing requirements dictate a 35mm-only release, the big negative is not completely wasted because much of the clarity and resolution will come through on the 35mm reduction prints. Both formats benefit when the original negative is in 65mm.

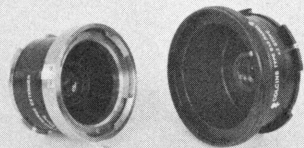
How 'bout it? Let's put Super Panavision back on the marquee.

—Steven Kraus
Park Forest, IL

Panavision confirms that normally a "Filmed in Panavision" credit in print advertising is intended to denote an anamorphic picture. Originally the name Panavision was used exclusively for the anamorphic process, but the advent of spherical Panavision lenses somewhat complicated the meaning of the name.

New from Europe

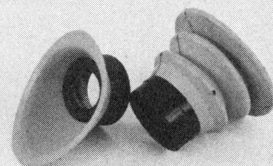
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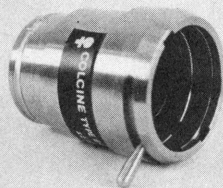
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Arri (unterminated)	\$125.00
Arri w/ 11 pin Fischer	\$165.00
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Arri (Standard or Round)	\$99.50
Video (Specify Camera)	\$65.00

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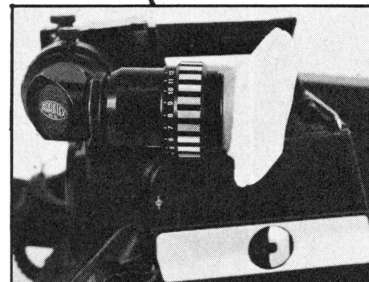


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2X (2 stop light loss)	\$850.00
1.4X (1 stop light loss)	\$850.00

For 35mm Zoom and Telephoto Lenses

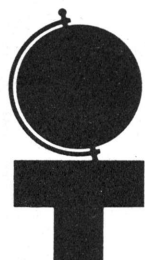


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Standard Arri Style	\$4.50
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Arri Standard-to-PL	\$285.00
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Beaulieu R16B-PZ Auto w/Angenieux 17-68mm f2.2	1795
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Beaulieu R-16 mono. body (VG)	895
Beaulieu R-16 w/17-68mm Angenieux (VG)	1165
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Angenieux 12-120mm f2.8 w/sidefinder, C mount (VG)	1495
Switar 26mm 1.1 Macro RX mt (VG)	825
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Kodak AV12M6 Pageant projector opt.-mag.	950
Nagra 4.2 (VG)	4250
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Colortran Dolly (G)	4995
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Samenco Interval Timer w/base for Bolex (G)	450
Bolex Titler Package (VG)	750
O'Connor, 100 fluid tripod head with Mitchell base, A & J carrying case and pan handle. (VG)	1950

(NM=Near Mint, VG=Very Good, G=Good)

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The Bookshelf

Two new volumes about directors appear in the scholarly "Guide to References and Resources" series: **Preston Sturges** by Ray Cywinski and **Nicholas Ray** by Blaine Allan. Well-researched and fully documented, each includes a biography, a critical appraisal, a full filmography, an annotated guide to writings, plus archival material and related data (*G.K. Hall, Boston, MA; \$42. & \$49.95*).

Ken Hanke's perceptive study, **Ken Russell's Films**, explores the director's thematic and stylistic distinctions that mark his evolution from *The Devils* to *Altered States*. Russell's own comments clarify his esthetic approach to cinema and the sources of his visual inspiration (*Scarecrow, Metuchen, NJ; \$32.50*).

An historic survey by Louise Heck-Rabi, **Women Filmmakers: A Critical Reception** explores the significant part many women have played as movie directors. Selecting 11 representative personalities, including Dorothy Arzner, Germaine Dulac, Muriel Box, Shirley Clarke and Ida Lupino, the author assembles for each a biographical sketch, a full filmography, and a broad compilation of critical assessments of their films (*Scarecrow, Metuchen, NJ; \$27.50*).

Among paperback reprints, let us note Garner Simmons' **Peckinpah: A Portrait in Montage**, a vivid study of the maverick director and his cinematic style (*U. of Texas, Austin, TX; \$8.95*); Andrew Sinclair's **John Ford**, a well-researched biography that reveals the craftsman behind the legend (*Ungar, New York, \$10.95*); and Sergei Eisenstein's autobiography, **Immoral Memories**, with fascinating insights into his complex personality and innovative artistic theories (*Houghton Mifflin, New York, \$13.95*).

An inherent dichotomy in Brian De Palma's personality—a confrontation between his rational mind and the passionate nature of his films—is insightfully explored by Susan Dworkin in **Double De Palma**. An on-the-set observer of his latest film, *Body Double*, Dworkin draws a penetrating profile of this intense man, immersed in the complexities of his controversial film (*Newmarket, New York, \$14.95/8.95*).

Published by the Academy of Motion Picture Arts and Sciences, the **1983 Annual Index to Motion Picture Credits** provides a full production personnel roster of all the 289 feature-length films that opened in the Los Angeles area during that year thus qualifying for an Academy Award. Meticulously edited by Ms. Byerly Woodward, it is an authoritative record indispensable to film research (*AMPAS, Beverly Hills, CA; \$80, \$60 to subscribers*).

Randall Johnson's **Cinema Novo + Five** considers Brazilian films through the works of directors Andrade, Diegues, Guerra, Rocha and dos Santos. Their thematic and stylistic innovations established "cinema novo" as a heterogeneous, state-supported movement unified by its national origin (*U. of Texas Press, Austin, TX; \$22.50/8.95*).

In **Black Cinema Aesthetics**, editor Gladstone L. Yearwood assembles important articles by black filmmakers and scholars. These deal with current American and African black cinema and its prospects as a cultural, social and artistic manifestation of ethnicity (*Ohio U., Athens, OH; \$5*).

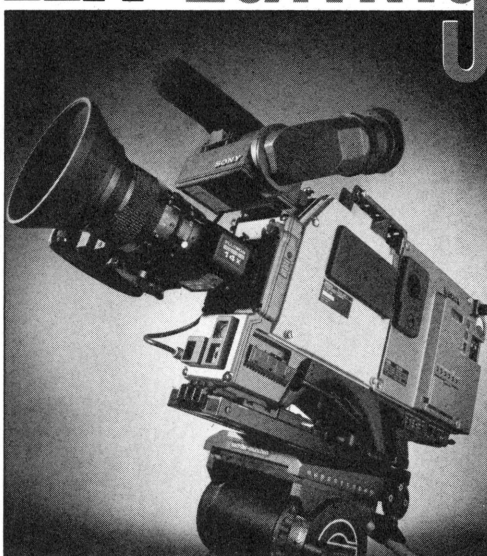
Movie-making in the San Francisco Bay area is chronicled in Geoffrey Bell's **The Golden Gate and the Silver Screen**. It documents with vintage stills and informative text the busy days of the silents through recent filming by Francis Coppola and George

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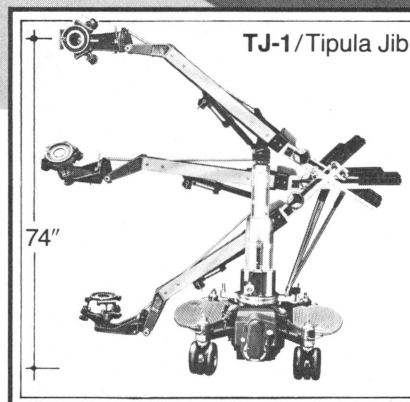
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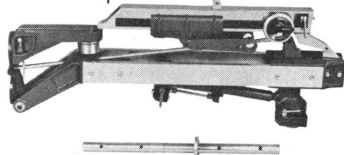
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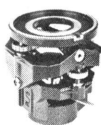
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Lucas (*Cornwall Books, Cranbury, NJ; \$24.50*).

Another instance of Northern California's devotion to movies is **The Oakland Paramount**, a superbly illustrated book by Susannah Harris Stone. It celebrates eloquently the restoration of this movie palace to its former glory and splendor (*Lancaster, Miller & Schnobrich, Berkeley, CA; \$11.95*).

An exhaustive coverage of photography and, inferentially, of cinematography in its historical, artistic, technical and commercial aspects, **Encyclopedia of Photography** takes its place as the standard reference work. Sponsored by the International Center of Photography, and with Cornell Capa as its editorial director, this massive 672-page volume of 1300 entries and superb color and b&w illustrations is a major source of factual data (*Crown, New York, \$50*).

Complementing each other in elegant and rewarding fashion, James Spada's **Hepburn—Her Life in Pictures** and Caroline Latham's **Katharine Hepburn: Her Film and Stage Career** capture the actress's spirit, energy, wit and warmth in a unique combination of attractive photographs and engrossing text (*Doubleday, New York, \$24.95/14.95; Proteus, New York, \$10.95*).

In **Our Best Years**, Helen Hayes (with Marion Glasserow Gladney) assembles a delightful and moving collection of thoughts on a variety of experiences and situations she encountered during her rewarding life and successful career (*Doubleday, New York, \$10.95*).

A spirited autobiography, **The Jack Wrangler Story** (written with Carl Johnes) relates with disarming candor the offbeat life of the former child star, song writer, director, and now leading performer in adult movies (*St. Martin's, New York, \$13.95*).

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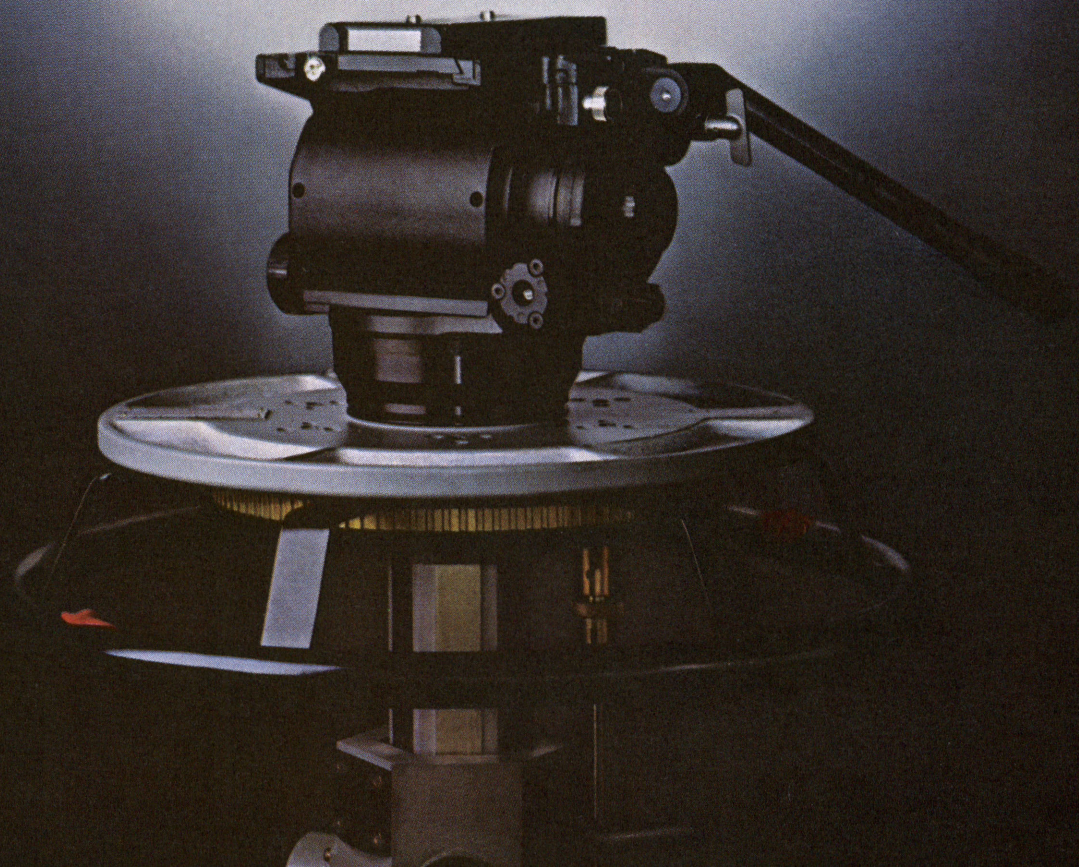
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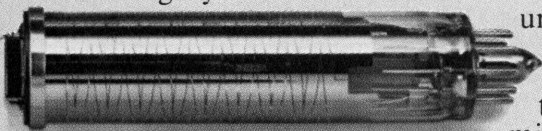


**INTRODUCING THE
SONY BVP-360. ON MAY 1, 1985,
THE REMARKABLE
BECOMES AVAILABLE.**

When we previewed this camera at NAB, the response was tremendous. Which, considering Sony's considerable reputation for high performance broadcast portables, wouldn't normally seem so surprising. Except for one detail.

The BVP-360 isn't a broadcast portable. (Although at 50 pounds it's certainly the most portable camera in its class.)

What the BVP-360 represents, however, is the culmination of Sony's work in tube technology, in innovative mechanical design and in High Definition Video Systems. A highly sophisticated, automated camera that promises to usher in a new era in price/performance for cameras in the Field/Studio category.



Sony-developed 2/3-inch Mixed Field Saticon™ (Plumbicon™ tubes also available.)

**THE 2/3-INCH IMAGE
FORMAT COMES OF AGE.**

For those of you unable to get through the crowds for a close look at the BVP-360, there are two explanations for the exceptional image quality you saw on the monitors overhead.

First, the BVP-360 employs the remarkable, Sony-developed 2/3" Mixed Field* tubes. The first real challenge to big tube performance. Because they deliver twice the registration and geometric accuracy of conventional 2/3" tubes. Plus greater depth of modulation. And thanks to the special Sony-developed FET that is built into the tube and yoke, an extraordinary signal-to-noise ratio. (MF Plumbicon™ or MF Saticon™ tubes are available.)

Secondly, the Sony BVP-360 is equipped with a breakthrough F1.2 prism design that single-handedly results in sensitivity and depth-of-field comparable with

25mm image formats. And vastly superior to any current 2/3" Field/Studio camera at any price.

And, naturally, when you combine these factors with the extensive signal processing technology Sony has engineered into the BVP-360, you get specs which could only be described as spectacular.

**A SUPERHUMAN FEAT
OF HUMAN ENGINEERING.**

Many of the experts who were able to get their hands on the camera at NAB were even more impressed by how it performs from a human standpoint.

Some were moved to comment by how easy the BVP-360 is to move around. Its smoothly integrated handles. Low weight. The highly maneuverable viewfinder. And the shortest lens-front-to-viewfinder distance in the industry.

Others cited the uniquely pragmatic approach to automation. An approach that concentrates the camera's considerable microprocessor-based intelligence on the most difficult setup operations; functions such as digital registration, B/W balance, flare and gamma.

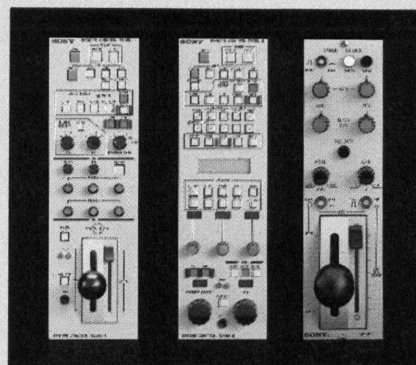
And still others referred to the BVP-360's extensive camera head memory, which can store up to sixty-four scene files, eight setup files, sixteen lens files and three reference files.

Plus the advantages of being able to choose from three remote operational panels.

**NOT JUST A CAMERA.
A CAMERA SYSTEM.**

But perhaps the most striking aspect of the BVP-360 is its "building block" design concept. An arrangement that makes it particularly easy to customize the camera for various production situations.

It starts with a



BVP-360 Remote Control Panels: (left to right) a flexible Field unit, a highly sophisticated Creative Production panel and a simple Studio unit.

camera head able to transmit component signals via Triax or Multicore. Or function as a stand-alone camera.

Then, on the technical front, alignments are handled at the Camera Control Unit. With each camera able to be tweaked individually. Or addressed as part of up to an eight-camera chain linked to one Master Setup Unit.

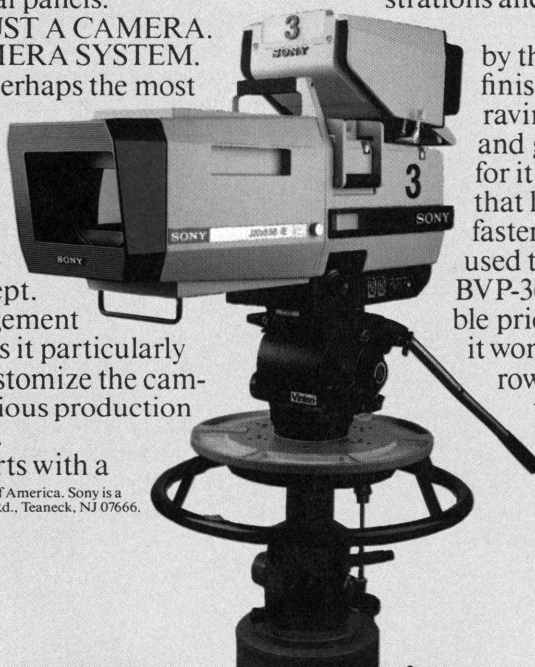
And finally, on the operational front, all control during production may be directed from one of three types of Remote Control Panels—a simple Studio model, a flexible Field unit, or a highly evolved Creative panel with extensive memory and scene-painting facilities.

**ADOPT A
WAIT-AND-SEE ATTITUDE.**

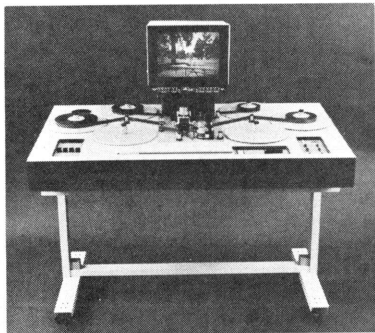
Of course, as we said at the outset, the BVP-360 isn't ready for delivery tomorrow. But that doesn't mean you have to wait until May to see it. There are units here right now for demonstrations and evaluations.

And of course, by the time you're finished testing it, raving about it and getting a budget for it (although that last part may go faster than you're used to thanks to the BVP-360's incredible price/performance), it won't be tomorrow. It'll be closer to May 1.

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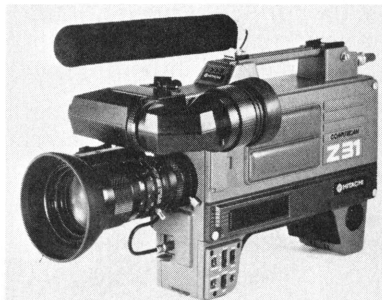
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New Products

3-Tube Auto Setup

Hitachi Denshi America announces the new Z-31, a three tube portable, auto set-up camera.

Hitachi underscores the key significance of the Z-31, which is its excellent performance, plus microcomputer automatic set-up adjustments. The camera uses newly developed 2/3" low capacitance MS Saticon tubes. Hitachi engineering says, "These electromagnetic focus, electrostatic deflection tubes provide the utmost in resolution, registration accuracy, and excellent signal to noise ratio." Hitachi quotes resolution in excess of 750 lines, and signal to noise of 58dB.



The camera comes with or without the computer auto set-up unit. It will also be available in component signal form for use with all type VTR's. A wide choice of lenses, with zoom ratios from 13:1 to 18:1, will be accommodated. Hitachi marketing highlighted the point that the Z-31 is available with a full line of accessories, making it suitable for all types of field and studio applications. In addition to the wide lens selection and optional component format, the Z-31 will have triax/coax digital adapters and a full studio panel with a 4.5" viewfinder. All of the accessories are in kit form so that they may be added at any time.

For further information, please contact: Hitachi Denshi America, Ltd., 175 Crossway Park W., Woodbury, NY 11797. (516) 921-7200.

Nikon 300mm T/2



Century's newest addition to its line of custom modified still lenses for motion picture & video cameras is the Nikon 300mm T/2, the fastest 300mm on the market. Features include the use of ED Glass for improved color correction, contrast and superior resolution, internal focus mechanism to reduce overall length and a complete modification to include Century's own interchangeable camera mount system and iris mechanism calibrated in "T" stops.

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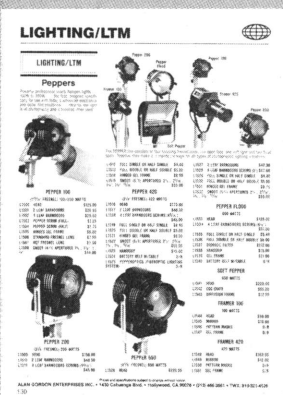
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been announced by The Great American Market. Named ShowPlot,TM it will draw a multi-color plan and light plot on vellum in any scale, print out all schedules as by-products of the drafting, make changes and store the entire design on a floppy disk. Data entry is by keyboard or voice recognition.

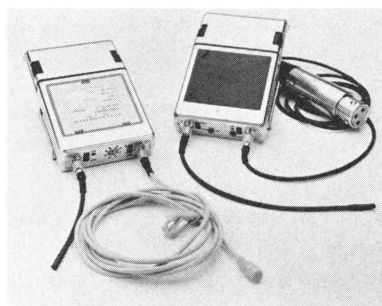
Designed for use with a personal computer, ShowPlot consists of an integrated software package with six functional modules, electronic drafting template, graphics plotter, VoiceCommand option and detailed illustrated owner's manual. A complete system is available from The Great American Market, or the software and plotter may be purchased separately.

ShowPlot eliminates hours of tedious drafting, allowing a designer to concentrate on the creative aspects of his work. "ShowPlot has been developed by theatre professionals who understand the needs of the lighting designer," says Joseph Tarvil, president of Great American. "It is a breakthrough in the application of computer technology to our industry."

For more information, contact The Great American Market, 826 N. Cole Ave., Hollywood, CA 90038; telephone (213) 461-0200.

Wireless Equipment

Sennheiser Electronic Corporation introduces its new line of wireless R.F. communication equipment consisting of the SKM 4031 handheld mik transmitter, SK 2012 body pac transmitter, EL 2012 body pac receiver, and EM 1036 multichannel rack mount receiver. Available in a variety of bandwidths, including UHF high and low, the product line exhibits flexibility and features previously unheard of in wireless technology.



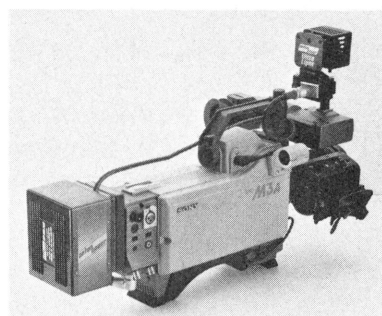
All battery operated equipment incorporates a DC-DC voltage con-

verter which maintains the operating voltage of the unit as the supply voltage drops, thereby avoiding audio distortion and carrier frequency drift. Powered by three AAA batteries, these units are equipped with special compander circuitry, crystal controlled oscillators, and select features which vary from model to model.

Lightweight, compact, formidable construction complements the design of each transmitter and receiver which has been built to meet exacting standards and professional specifications.

For more information regarding these products, contact Sennheiser Electronic Corporation, 48 West 38th Street, N.Y., N.Y. 10018.

Ultralight Additions



A complete line of accessories and adapters to the UltraLight Modular Lighting System: dichroic filter, #1 diffuser, wide angle adapter, and UltraLight Power Adapter are now available.

These allow use of the camera battery to operate both the camera and light simultaneously.

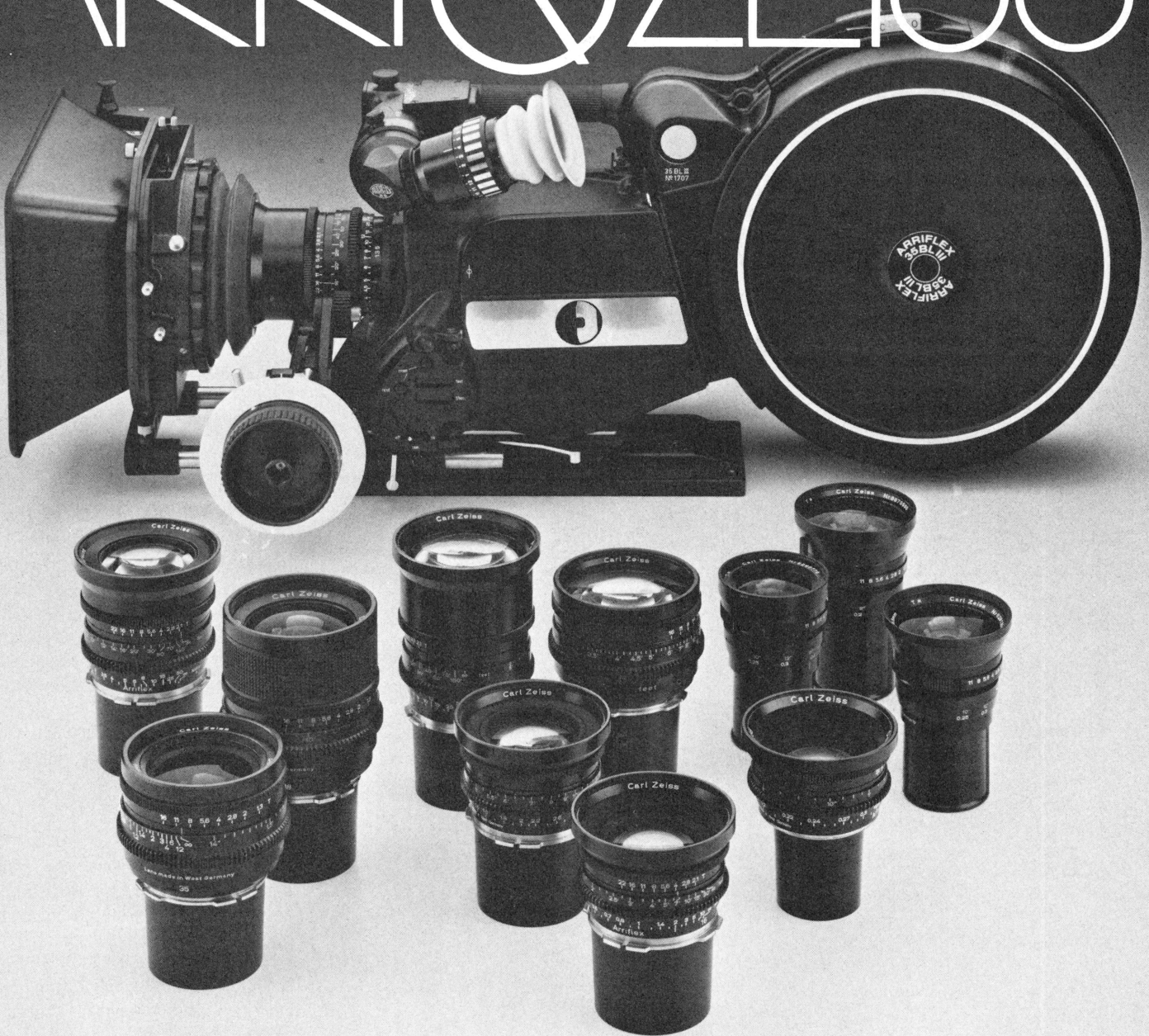
The ULAC-UltraLight AC power supply for low voltage lighting, makes it possible to standardize on 12-14 volt bulbs, providing the greatest range of lighting options. At 4½" x 6" x 1½", the compact ULAC can be used to operate the single or dual UltraLights wherever an AC outlet is available. 100 watts maximum light output.

For further information, contact: Anton Bauer, One Controls Drive, Shelton, CT 06484 (203) 929-1100.

New Synchronizer

Sony Professional Audio Division demonstrated a new time code-based synchronizer, the Syncmaster, at the SMPTE convention in November.

ARRI & ZEISS



The sharpest combination in cinematography.

ZEISS has built an extraordinary series of new lenses—exclusively for ARRI and to their precise specifications.

In the ARRI/ZEISS approach, lenses are designed specifically for the full frame 35mm motion picture format, for optimum performance and common, maximum T-stops. Each lens is individually assembled from selected groups of elements for maximum cancellation of focal length errors. Zeiss-developed rare earth coatings improve flare control, color correction is absolutely matched and contrast and

resolution are identical from lens to lens.

ARRI's short flange focal camera design allows the use of "relaxed" retrofocus designs for highly corrected, nearly distortion-free wide angle lenses. And the absolutely rigid, dimensionally stable ARRI film plane assures perfect back focus even in extreme temperatures with wide open lenses.

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June 16 to 22

The Film Directing Workshop
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(2 weeks)

The Video Editing Workshop
The Sound Recording
Workshop

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The Film Editing Workshop
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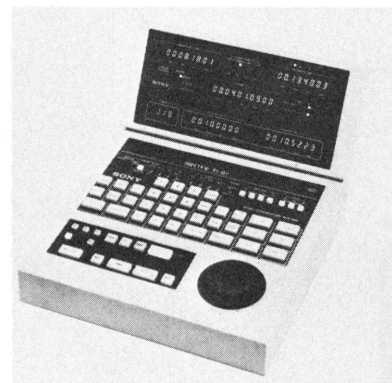
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These programs supported by Arriflex.

Additional support from Panavision, Cinema Products, General Camera, ROSCO, Tiffen, Kodak, OSRAM, Lowel, Matthews, JVC, Hitachi, and Silver Cup Studio.

The device is designed for synchronization of audio tape machines, videotape recorders and film systems. The Syncmaster provides a totally new synchronizer system based on the evolving SMPTE/EBU studio control protocols.



The Syncmaster consists of a multi-purpose keyboard/display unit, the AVS-500, and a processor rack, the AVP-500. Up to four machines can be locked together and controlled from the central keyboard/display unit. The display can be removed from the keyboard and mounted in a remote location for optimum visibility. This device incorporates the technology of video editing systems, providing an audio edit decision list with management capability, with the added ability to accept edit lists from CMX compatible video editors.

For further information, contact: Sony, Sony Drive, Park Ridge, NJ 07656. (201) 930-6432.

Steadigate

Cinema Products' new Steadigate conversion provides Rank Cintel transfer machines with an improved gate system which greatly enhances image stabilization.

Available for 16mm and 35mm film gates, Steadigate is directly interchangeable with existing Rank Cintel gates. Only the gate carrier assembly requires minor machining.

The entire Steadigate assembly is hard chrome plated. Adjustable spring-loaded side guides on both sides of the aperture bear wear-proof inserts to insure trouble-free operation.

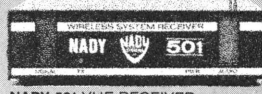
As an additional improvement, Steadigate has a flat, rather than curved surface, across the film aperture. This feature corrects the slight out-of-

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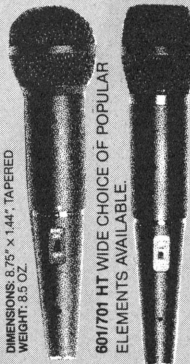
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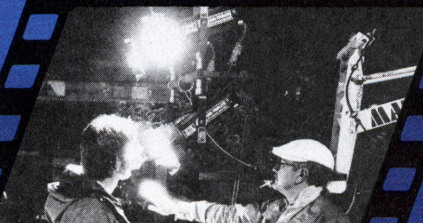
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focus condition occurring at the top and bottom of frame when operating in the reverse record mode.

Cinema Products conversion package includes a free-floating center gimbal-mounted roller which replaces the supply side roller closest to the film gate. The new roller aids image stabilization when handling fluted film (warp-age caused during processing).

Steadigate eliminates all lateral image movement (side weave) that is not caused by unsteadiness inherent in the original photographed material.

For additional information, please contact Cinema Products, 2037 Granville, Los Angeles, 90025. (213) 478-0711.

Motion Analysis Unit

Eastman Kodak Company's Spin Physics Division has introduced a low-cost version of its motion analysis system that is expected to further widen the growing market for video application. This new version is the SP2000-C motion analysis system.

The new system records high-speed industrial or scientific events at rates from 60 to 2,000 full-frame images per second, or up to 12,000 split frames per second. It offers instant-replay capabilities for slow-motion analysis of rapidly occurring events.

Conventional video motion analysis systems operate at speeds of only 200 frames per second. The SP2000-C system combines advances in solid-state electronic image sensor technology and magnetic recording heads.

The SP2000-C system is ideally suited for small companies, test ranges, universities, research groups, and divisions of companies. Components of the system include a high-speed camera, and a control/recording console, which uses a 1,000-foot cassette of high-density magnetic recording tape.

The SP2000-C system can be transported to test ranges, field installations and university research labs to videotape research-and-development projects. It is available with a 25-foot cable.

For further information contact: Eastman Kodak Company, 343 State Street, Rochester, N.Y. 14650

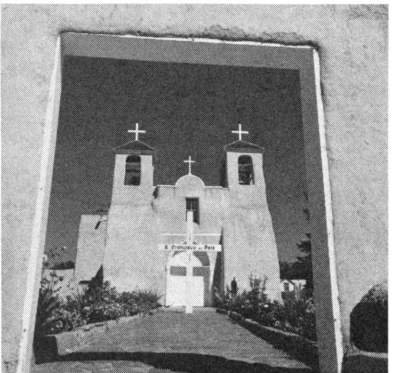
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Heron Lake. Photo by Mark Nohl.



Ranchos de Taos Church. Photo by Mark Nohl.

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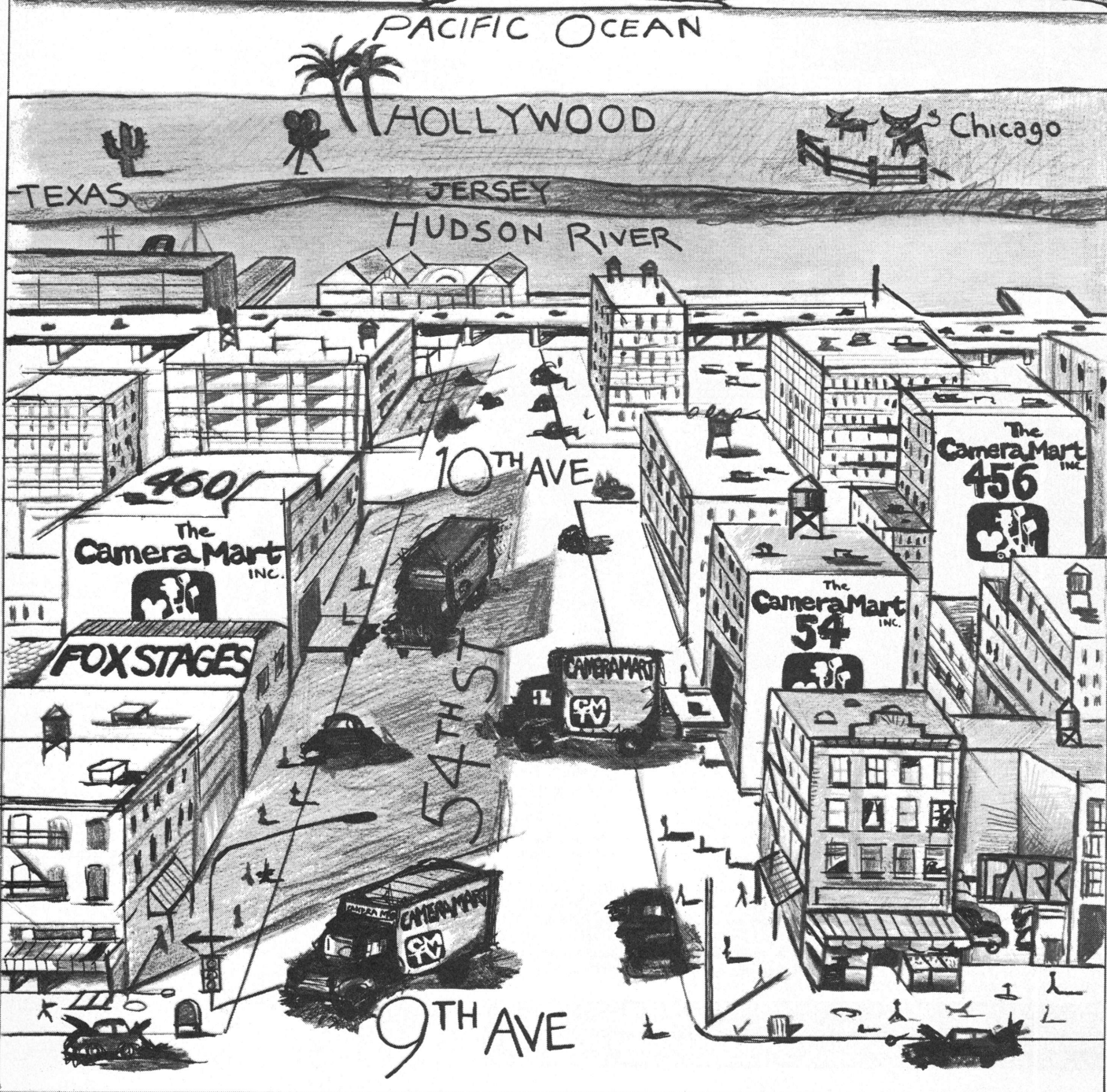
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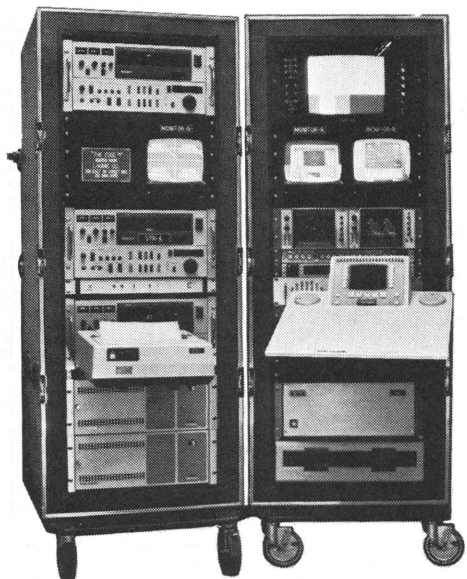
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Calendar

February

Feb. 6, 1985

Academy of Motion Picture Arts & Sciences

Los Angeles
Academy Award nominations announced
8949 Wilshire Blvd.
Beverly Hills, CA 90211

Feb. 11-15, 1985

Video Expo

San Francisco
Seminar, Exhibit
701 Westchester Avenue
White Plains, NY 10604 (914) 328-9157

Feb. 15-16, 1985

SMPTE Conference

San Francisco
19th Television Conference
862 Scarsdale Ave.
Scarsdale, NY 10583 (914) 472-6606

Feb. 19-25, 1985

SICOF '85

Milan, Italy
Audiovisual Exhibit
Via Domenichino 11, 20149
Milan, Italy Tel: 02/49.98.984

March

March 3-8, 1985

Audio Visual Institute

Bloomington, Ind.
Seminar
ICIA Training Dept.
3150 Spring St.
Fairfax, VA 22031

March 17, 1985

Academy of Motion Picture Arts & Sciences

Scientific or Technical Awards
Los Angeles
8949 Wilshire Blvd.
Beverly Hills, CA 90211 (213) 278-8990

March 17-20, 1985

Illuminating Engineering Society of North America

New York City
Symposium on Theater, Television and Film
Lighting (Show Light '85)
133 West 19th Street
New York, NY 10011 (914) 937-1300



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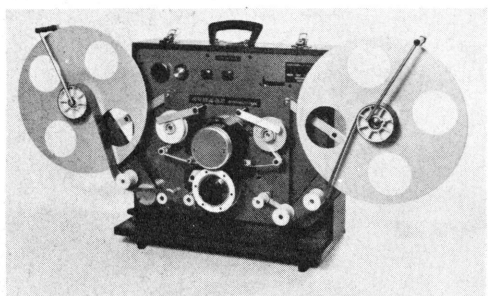
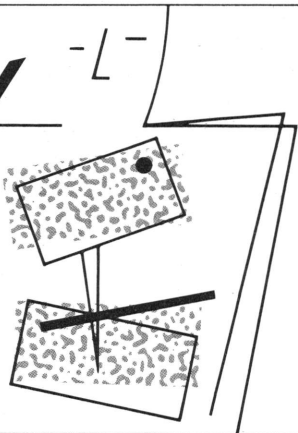
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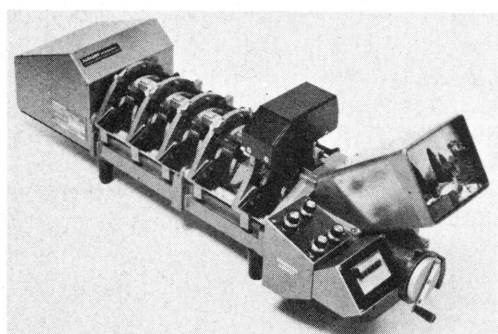


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March 25, 1985

Academy of Motion Picture Arts & Sciences

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Presentation
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April

Apr. 14-18, 1985

National Computer Graphics Assn.

Dallas, Tex.
Computer Graphics '85
8401 Arlington Blvd., Suite 601
Fairfax, VA 22031

May

May 12-16, 1985

Society of Photographic Scientists & Engineers

38th Annual Conference
Atlantic City, NJ
7003 Kilworth Lane
Springfield, VA 22151

May 14-19, 1985

International Telecommunication Union

Singapore
Asia Telecom 85 Conference
Place des Nations, CH-1211
Geneva 20, Switzerland

May 16-17, 1985

Motion Picture & Television Engineering Society of Japan

17th Equipment Exhibition
Science Museum, Tokyo
Sankel Bldg. Annex 1-7-2, Otemachi,
Chiyoda-ku, Tokyo 100

May 19-22, 1985

4th International Conference on Television Drama

Michigan State University
East Lansing, MI (517) 355-4714

May 19-23, 1985

Society for Technical Communication

Houston, Texas
Audiovisual Conference & Competition
332 Iowa Court
Ridgecrest, CA 93555 (202) 737-0035

May 20-23, 1985

Los Angeles ITVA

Videoshow and Video Production
Conference
Long Beach, CA
Lisa Welp, 51 Sugar Hollow Road,
Danbury, CT 06810 (203) 743-2120

May 29-June 1, 1985

ITVA International Conference

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2-TIMES SPEED REVERSE MODE 48/50/60 FPS activates transports at two times sound speed in reverse mode at 48, 50 or 60 FPS.

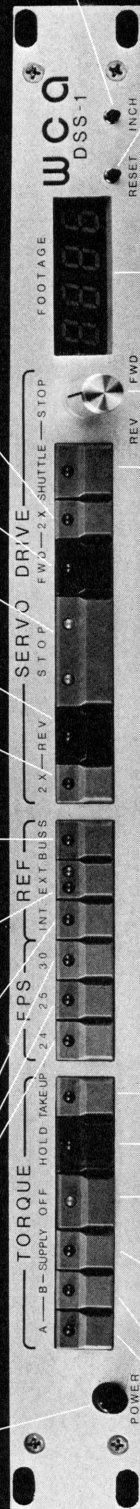
REVERSE MODE activates transport at sound speed (24, 25 or 30 FPS) in reverse mode.

STOP MODE will stop transport. Allows minimum torque to supply/take-up torque motors.

FORWARD MODE activates transport at sound speed (24, 25 or 30 FPS) in forward mode.

2-TIMES SPEED FORWARD MODE 48/50/60 FPS activates transports at two times sound speed in forward mode at 48, 50, or 60 FPS.

MANUAL INCHING SWITCH disengages Servo Motor when depressed, for exact positioning of film, but is only active when transport is in the STOP mode.



"A"-WIND/"B"-WIND SWITCHES. Select "A" or "B"-Wind for the supply Torque Motor to change direction (clock-wise/counter-clock-wise). This function is only active when Torque is in the "OFF" mode.

TORQUE SUPPLY (FAST REWIND) Torque Supply turns on Supply Torque Motor at approx. 15-inch oz. of torque in "A" or "B"-Wind for fast rewind outside of sprocket drive.

TORQUE TAKE-UP (FAST FORWARD) Torque Take-Up will turn on the Take-Up Torque Motor at approx. 15-inch ounce of torque, allowing for fast forward of film motion outside the sprocket drive.

HOLD - FOR NORMAL RUN MODE. In Hold position, the torque motors apply tension to film for proper play-back and record operation; both torque motors are energized while film is in stop condition, minimum torque is applied.

TORQUE OFF Power is removed from both Torque Motors. Mode for loop operation.

DIGITAL FOOTAGE COUNTER indicates footage of film in four digits for forward operation to 9999 feet.

SHUTTLE CONTROL KNOB for Reverse/Stop/Forward and Variable speeds. Control knob may be pre-set to within the maximum speed of 16/35mm, and/or allows continuous variable manual operation.

SHUTTLE MODE allows continuous variable speeds Forward and Reverse, from 2 to 90FPS in 16mm and to 60FPS in 35mm, by utilizing Shuttle Control knob.

COUNTER RESET SWITCH resets the digital footage counter to 0000.

George E. Turner

ROPE

Many movies have been criticized as being "the same old stuff." Such a complaint could never be leveled at *Rope*, which was produced by Alfred Hitchcock 37 years ago. *Rope* was one of a kind.

In 1946, Hitchcock and his old friend, Sidney L. Bernstein, a theater magnate, formed a producing company called Transatlantic Pictures Corp. While dining at Bernstein's London home, Hitchcock was intrigued by an idea proposed by Bernstein that stage plays should be photographed during performances for research purposes.

Hitchcock mentioned a 1929 play by Patrick Hamilton, *Rope's End*, which he believed would be ideal for such a treatment. He proposed to shoot the play, which has no time lapses and takes place in one set in an hour-and-a-half, as continuous action. "The camera never stops," he explained. But the picture should not be made on a theater stage but under sound stage conditions. The partners decided to buy the play and film it as the first Transatlantic production. Hitchcock soon debarked to America to direct the last picture required by his contract with David O. Selznick, *The Paradine Case*.

Star names were necessary to carry a picture in those days. Transatlantic decided to get one box-office star, James Stewart, and assign the other roles to dependable – but less expensive – players with stage experience. Stewart's fee – \$300,000 – was a large disbursement for an independent company. The other players: John Dall, Farley Granger, Sir Cedric Hardwicke, Constance Collier, Joan Chandler, Douglas Dick, Edith Evanson and Dick Hogan. *Rope* was

the first of four pictures Stewart made for Hitchcock.

Technicolor was another sure-fire selling point. Hitchcock decided that *Rope* would be his first color picture.

The concept of shooting a picture in "real time" was not, in itself, unique. For several years following the introduction of motion pictures in 1894, short films dealing with simple situations were filmed with locked down cameras from a single vantage point. As productions grew longer, individual shots became shorter – but only gradually. After 1910, the value of editing a picture from many shots of varying lengths and angles became standard procedure, and by 1920 the average feature contained about 600 shots. The art of shooting and cutting film into a unified whole had reached a high state when, in the late 1920s, the talking picture made silent production methods obsolete.

Extremely long takes became a necessity because of the many unresolved problems of combining photography with sound. There was a general reluctance to attempt cutting during a scene, and a long scene was made more dreary by the fact that the camera was confined to a soundproof booth and the actors had to huddle around a hidden, low-fidelity microphone. The invention of the mike boom freed the sound apparatus and the soundproofing of cameras with blimps freed the cinematographer from camera booths. Cutting within a dialogue scene was achieved successfully in 1929 by Tod Browning and Merritt Gerstad, ASC – director and cinematogra-

The director acquaints the cast with the script long before actual production begins. Around table (clockwise) are Douglas Dick, John Dall, Joan Chandler, Sir Cedric Hardwicke, Charles Bryant (continuity clerk), Alfred Hitchcock, Farley Granger, James Stewart, Constance Collier and Edith Evanson.



- Something Different

pher of MGM's *The Thirteenth Chair* – during the filming of a seance scene.

While directing *The Bat Whispers* at United Artists Studio, Roland West bought a 65mm camera at his own expense and made a second version of the picture in the wide format. His idea was to make the picture in actual time in the manner of a stage play, to be projected on a huge screen on which the players would appear life size, as though acting in person on the stage and enacting their roles without interruption. The camera was mounted in a single position, remaining static except during the opening scene. The result was a stodgy picture far inferior to West's standard 35mm version, which has wonderfully lively camera work, special photographic effects and sharp editing.

Although many directors – Victor Halperin, Ernest Schoedsack, Frank Capra, George Cukor, Preston Sturges and Vincente Minnelli among them – made occasional very long takes, they kept them isolated among more normal cuts.

Hitchcock's plan was to shoot all nine reels of *Rope* with the usual variety of camera angles from closeups to long shots without cutting. The camera would be kept in continuous motion, prying into the action as an invisible visitor – a major departure from West's pioneering effort.

In 1947, while completing *The Paradine Case*, Hitchcock and Bernstein signed Arthur Laurents, a successful Broadway playwright, to adapt *Rope's End*. The picture was to be produced at Warner Bros. for their program. The script is a unique document in that the scenes are not numbered or separated and there are very few camera directions other than some notations of positions required at certain crucial points.

Hitchcock had never worked in Technicolor before, having purposely avoided color photography because he felt that his type of story generally worked better in black and white. He decided to do *Rope* in color because, he said, "Color will denote the change in time of day from sunset to darkness which is of vital dramatic importance in the story."

Technicolor, at that time, was a process which utilized three strips of black and white film passing through a specially constructed camera to produce the panchromatic equivalent of three basic colors, which were printed onto a single strip of film by a dye transfer method. It was a ponderous, expen-



Ralph Webb, special effects expert, and Hitchcock on the miniature with a spun glass "cloud."

ROPE

A Transatlantic Pictures production; color by Technicolor; produced by Sidney Bernstein and Alfred J. Hitchcock; directed by Alfred Hitchcock; adapted by Hume Cronyn from the play, "Rope's End," by Patrick Hamilton; screen play by Arthur Laurents; directors of photography, Joseph A. Valentine, ASC, and William V. Skall, ASC; Technicolor color director, Natalie Kalmus; associate, Robert Brower; art director, Perry Ferguson; set decorators, Emile Kuri and Howard Bristol; film editor, William H. Ziegler; sound by Al Riggs; makeup artist, Perc Westmore; musical director, Leo F. Forbstein; music adapted from "Mouvement Perpetuel No. 1" by Francois Poulenc; Miss Chandler's dress by Adrian; radio sequence by The Three Suns; operators of camera movement, Edward Fitzgerald, Paul G. Hill, Richard Emmons, Morris Rosen; lighting technician, Jim Potvin; assistant director, Lowell J. Farrell; production manager, Fred Ahern; technical advisor, Dr. Dinsmore Alter; mechanical effects, Ralph Webb; continuity, Charlsie Bryant. Running time, 80 minutes. Released in 1948 by Warner Bros. Pictures, Inc.; reissued 1983 by Universal Classics.

Rupert Cadell, James Stewart; Brandon, John Dall; Philip, Farley Granger; Mr. Kentley, Sir Cedric Hardwicke; Mrs. Atwater, Constance Collier; Kenneth, Douglas Dick; Mrs. Wilson, Edith Evanson; David Kentley, Dick Hogan; Janet, Joan Chandler.



The living room, showing the numbered rings on floor which guided Holly operators to proper positions.

The director expresses confidence in his cast—Granger, Evanson, Hick, Dall, Collier, Hardwicke, Chandler and Stewart. The only other player, Dick Hogan, has already been tucked out of sight.

sive method fraught with difficulties, but was capable of producing results surpassing those of any other available process. The three-strip process is quite extinct now, except in the Chinese film industry.

Because only 952 feet of Technicolor could be shot at one time, filming was done in segments of nine minutes or less. To hide the changes between reels it was necessary to resort to various forms of trickery. In one instance, the lid of the sinister chest is raised, momentarily blotting out the scene as it comes close to the camera lens. Sometimes the camera freezes on some part of the room not occupied by actors, picks up the same view on the next reel and continues the camera movement. Most often one of the players brushes past the camera or the camera moves in close to somebody's jacket at the end of the take.

The opening reel actually encompasses two shots. The first is a high angle looking down at a city street; then the camera swings around to show a high window with drawn blinds. A scream is heard from

inside. Then the camera is in the apartment and the long take begins with an extreme closeup of Dick Hogan's agonized face. The camera pulls back to show that he is being strangled by a rope held by John Dall and Farley Granger. The boys stuff the body into a large wooden chest. The camera follows them through the hallway and dining room to the kitchen, watches them open a bottle of champagne, and returns with them to the chest where they discuss their crime and their plans for the evening as they set the silver service on the wooden tomb in preparation for a buffet dinner to which the corpse's family and fiancée have been invited.

During the ensuing eight reels we learn that the two young men have murdered their college friend merely to prove their superiority. Amongst the guests is their former professor, James Stewart, whose teachings of the Nietzsche superman theory have inspired the crime. In their attempts to impress Stewart, the murderers arouse his suspicions. After the party he returns to confront them with their guilt and turn them over to the police.

The camera moves were not improvised to any noticeable degree. Hitchcock's method always was to pre-plan a production so intricately that the actual filming was relatively simple. A series of conferences with key production personnel to iron out technical problems began in December 1947, about one month in advance of principal photography. Among those present at these meetings were Joseph A. Valentine, ASC, director of photography; William V. Skall, ASC, a cinematographer furnished by the Technicolor Company; William Ziegler, film editor; Perry Ferguson, art director; Lowell Farrell, assistant director; Fred Ahern, production manager, and Emile Kuri and Howard Bristol, set directors.

Ziegler planned out the movements of actors and camera by rearranging the rooms of his daughter's doll house and using chess men as actors. The art director and the cinematographers used





Ziegler's choreography to plan their moves, which were extremely intricate.

All action except for a brief opening scene was shot on a single set. The designer, Perry Ferguson, was one of the top men in his field, having done the sets for the likes of *Gunga Din* (1939), *The Hunchback of Notre Dame* (1940) and *The Secret Life of Walter Mitty* (1947). His ingenious set for *Rope* depicted a penthouse apartment consisting of living room, dining room, hallway and part of a kitchen. All the walls were wild, being hung from overhead U-tracks so that grips could move them out of the camera's way as it followed the actors through doors, then replace them before they came back into camera range. The rails' grooves were filled in with petroleum jelly so that there would be no friction as the walls were slid back and forth.

All the furniture, including a massive wooden chest which plays an important role in the story, was on wheels so it could be moved out of the camera's way. The chest, which appears to be in the middle of the living room throughout, actually was rolled away every time the camera moved across the room, then returned to its position before the camera returned.

To keep such behind the camera action noiseless, the set was built on a special floor on Warner Stage 12. Built of 1" tongue-and-groove lumber covered with soundproof celotex and a carpet, and lined with felt, the extra floor assured that there would be no creaking as the heavy Technicolor camera and dolly passed over. The floor was marked with numbered circles showing where the camera should be situated at a given time. The positions were also plotted on a blackboard. A continuity supervisor signalled the crew for each move indicated on the board. A small flashlight, suspended just under the camera lens so that its circle of light marked the exact position of each number, helped the grips to place the camera in position for each cue.

Valentine, a stocky New Yorker of Italian descent, had photographed most of the Deanna Durbin pictures, *The Wolf Man* (1941), and two of Hitchcock's earlier pictures, *Saboteur* (1942) and *Shadow of a Doubt* (1943). Skall was a specialist in Technicolor photography, whose credits included *Ramona* (1936), *Northwest Passage* (1940) and *Billy the Kid* (1941). It was his job to advise Valentine, whose specialty was black and white work, on the considerable differences in technique demanded by the color process.

Cast and crew rehearse on Warner Stage 12. From left: Morris Rosen, Ed Fitzgerald, Paul H. Alfred Hitchcock, William Skall, Jim Porter, Stewart Chandler, Dick Hardwicke, Collier Granger and Dall.



light of the city
actuate the climax
Stewart confronts
and Granger
their guilt.

Rehearsals began on the full size set on January 12 and continued daily until January 22, when actual photography commenced.

The camera was mounted on a special dolly invented by Morris Rosen, head grip, and called "Rosie's all-angle dolly." It was made for \$1700 and consisted of a square platform, a camera post and wheels. It operated without tracks and was small enough to pass through a normal double door. The camera post would rise four feet noiselessly. Each set of double wheels was separately pivoted. A chain attached to the steering handle turned all wheels simultaneously, allowing the camera to circle a player in closeup. "Rosie's dolly" was the prototype of the crab dolly which is used widely today.

Finding that it was impractical in most instances to follow the camera with a mike boom, the sound supervisor, Al Riggs, used four separate booms and two overhead mikes to pick up dialogue from anywhere on the set. Five mixers and as many boom operators were busy keeping up with the camera moves, while the mixer operated his console from a high parallel overlooking the set.

A 35mm lens, which offered a somewhat wider angle and deeper field than the normal 50mm, was used throughout, taking in 1½-foot closeups to 30 foot long shots. A Selsyn motor, calibrated to the lens, was employed to insure correct focus.

"My biggest problem was the lighting," Valentine told *American Cinematographer* (July, 1948). "Especially the job of eliminating mike and camera shadows. In the reel where we had ten mikes in operation we had to have electricians operating five dimmer panels." All lighting had to be set up overhead, television style.

Valentine and Skall kept the colors subdued throughout, except for a few moments at the end of the picture. The lighting and colors within the apartment itself are purposely undramatic and ordinary looking, with none of the sinister *film noir* look of most murder yarns. The dramatic color effects were

limited to the scene outside the window, in which the passage of time had to be dramatized convincingly.

No Hitchcock picture would be complete without some use of miniatures. In *Rope*, in which there is none of the usual hectic action featured in the typical thriller, the miniature is a part of the set – the view of New York City which appears beyond the windows in every reel.

It was apparent from the outset that the customary painted backdrop, however artfully lighted, would be inadequate to show the changing light and cloud formations needed to depict the passage of time from late afternoon to night. The importance of this effect to a story being told in "real time" was crucial.

The miniature reproduced about 35 square miles of the Manhattan skyline, taking in such familiar landmarks as the Empire State Building, St. Patrick's Church, the Hotel Astor, Radio City, and the Chrysler and Woolworth buildings. The 12,000-square-foot cyclorama backing was three times as wide as the apartment and was laid out in a semi-circle so the camera could be moved around freely without compromising the background. The buildings, built in forced perspective, were similarly arranged. The closer structures were three dimensional and equipped with steam pipes inside to feed "smoke" through chimneys and stacks. It was noted initially that the steam rose too rapidly and too high for the scale of the set. Dry ice, placed over the pipes, solved the problem. The chilled steam rose lazily and drifted away.

The more distant buildings were photographic blowups shot in New York, printed up to scale and mounted as double-faceted cutouts. The farthest buildings were only 20 feet from the window, but with extreme foreshortening and effect lighting they give a proper impression of distance.

Fred Ahern, production manager, got the job of finding clouds that looked real and could be changed subtly between takes. Clouds of cotton wool were tested and rejected because they absorbed the light instead of reflecting it. Eventually, the clouds were made of spun glass ("angel hair"). Scenic artists wearing cheesecloth-lined painting masks modelled 500 pounds of the fragile substance over chicken wire forms to produce a variety of cumulus cloud shapes, which were arrived at after hundreds of photographs were studied. The clouds were mounted individually on stands or suspended from tracks on invisible wires.

Dr. Dinsmore Alter, head of the Griffith Observatory in Hollywood, was brought in to examine the clouds for authenticity. The noted meteorologist-astronomer made certain that the shapes were correct for their levels and had one group broken up because it resembled an atomic mushroom.

In the course of filming, the clouds were rearranged between reels, moving left to right according to a carefully drawn out plan. In the opening scenes the sky is crowded with clouds, which thin out

as nightfall approaches until at the end there are only two clouds in the blackened sky.

As the sky darkens, lights begin appearing in the windows of the buildings and neon signs flash on. One of these signs depicts before-and-after figures advertising a product called Reduco. The model for this was the director, whose portly figure is well known, making the token personal appearance that had been a tradition in his films since *The Lodger*, made in 1926. He had used the Reduco gag as a newspaper ad in *Lifeboat* (1943), another one-set show in which he could not logically do a walk-on.

An electrician stationed on a high parallel operated a light organ with a bank of 47 switches to control the miniature lights. Some 6,000 incandescent bulbs ranging from 25 to 100 watts lighted the windows and 200 tiny neon signs adorned the exteriors of the buildings, all of which were wired separately. This required 26,000 feet of wire carrying 126,000 watts of power to 150 transformers.

A full scale neon sign spelling out STORAGE in three colors – red, blue and green – was installed near the window. This sign begins flashing just at the climax of the movie, when the murderers are revealed, so to speak, in their true colors. The neon provides lurid punctuation to a film of predominantly subdued hues.

To make the light from the sign seem to flood the room and limn the faces of the killers, lights covered by gels of the same colors as the neon were set up. Shutter devices, electrically synchronized to the blinking of the sign, created the dramatic pulsing of the colors.

“Our worst calamity,” Valentine said, “was the day one of the wild walls didn’t move quite fast enough and the camera went crashing right into it. The crackup jimmied the friction head of the camera



Director of photography Joseph Valentine, Hitchcock and technical advisor Dr. Dinsmore Alter.

and we suspended filming for the day.”

The *Rope* technique, Valentine said, created more problems for the crew and required more careful planning than the conventional methods, but he felt it was beneficial to the actors. “The way we usually film a scene, by making first a master shot, then a medium shot, then finally a close-up, keeps the actors waiting endlessly. By the time we get around to the close-up the stars are exhausted and the spontaneity of the scene is lost; but with this reel by reel filming the actor can sustain a characterization and maintain an even flow and pace in his work.”

A typical technical problem occurred while the first reel was being shot. After about eight minutes of a perfect take, the last camera move caught an electrician standing by the window.

Rope was completed, supposedly, in only 18 actual days of production – 10 days of rehearsals with actors, camera and crew, and eight days of shooting. Hitchcock, however, was displeased with the first version of the sunset, which was treated in a conventional movie style with an abundance of red-orange light. He decided to retake the last five reels of the picture. He sent photographers to three locations to photograph the setting sun at five minute intervals for

Shooting the first version of the sunset confrontation. Note wild walls and the immense size of the Technicolor blimp.



105 minutes. One made his shots from the top of a New York office building, another from an unfinished building on Wilshire Blvd. in Los Angeles, and the other from Santa Monica pier.

The five reels were re-shot, using the photos as color guides. At this time, Valentine was on the sick list and Skall took charge. Nine days later the last reel was completed.

Incidentally, Hitchcock was not *entirely* convinced that his one-take approach was viable, although he had experimented with the idea in individual sequences of *Spellbound* (1945) *Notorious* (1946) and *The Paradine Case* (1947). He spent several days shooting closeups of key dialogue scenes, "just in case - ."

The street sounds, including the approaching police siren at the climax, were real. Nixing the sound department's intention of utilizing library sound effects, Hitchcock had microphones hung outside a sixth story window while actors, autos and an ambulance performed to order. The effect is perfectly realistic.

The original cost estimate of *Rope* was \$1.4 million, including studio overhead charges. Neither time nor money were budgeted strictly because it was impossible to anticipate what problems might arise. The 28-day completion was well under the schedule usually given important pictures, and the cost of \$200,000 above the estimate was hardly excessive. There was a minimum of post-production work.

The picture was released nationally on September 25.

The movie industry's own self-censorship board, established by the studios to keep producers from running afoul of local and state censors, rode herd on the script and production, making certain there was no direct allusion to the homosexuality of the murderers (and the bestiality of one of them), and

that the murder scene was not unduly gruesome. The picture received the Motion Picture Producers and Distributors of America "purity seal," meaning it was, ostensibly, "censor-proof." However:

The Chicago censors banned *Rope* in toto. Authorities in Worcester, New Bedford, Spokane, Seattle and Memphis followed suit. Chicago later relented, with the condition that exhibitors enforce an "adults only" policy. Sioux City permitted exhibition only after the murder scene was deleted. Women's organizations, the National Legion of Decency and other influential groups denounced it.

Fortunately for Transatlantic, *Rope* received generally high marks in the press, few reviewers remarking dislike of either the theme or the technique. A number even went overboard and proclaimed it "as important as the invention of the closeup or of sound." *Life*, selecting it as Movie of the Week, gave the sensible opinion that the "radical innovation in picture-making" was effective in maintaining suspense but that Hitchcock's effort at making his technique unobtrusive was "not a wholly successful one." On the other hand, the esteemed Thornton Delahanty, in *Redbook*, selected *Rope* as Movie of the Month, gave it a rave review, commented upon the "extremely effective" use of color "to dramatize the mood" and made no mention whatever of the photographic technique!

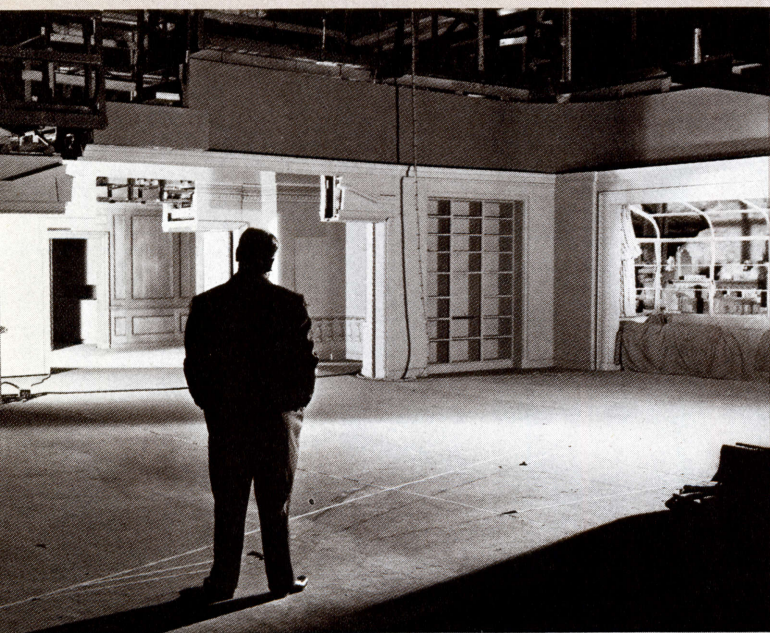
The public, undaunted by questions of technique, liked the picture well enough to make it a financial success. It put Transatlantic in a healthy financial condition and the company's future seemed secure.

Hitchcock tried a modified version of the *Rope* technique on their next production, *Under Capricorn*, interspersing several long and complex takes into more conventionally arranged scenes, but they interrupted the tempo of the otherwise exquisite film and destroyed suspense. The usually imperturbable Ingrid Bergman became so angry while wading through one nine-minute scene that she was still raving on the set after the director had gone home.

Under Capricorn, which cost a great deal more than *Rope* and brought in a great deal less, was a fiscal disaster which forced Hitchcock and Bernstein to dissolve Transatlantic.

"I undertook *Rope* as a stunt; that's the only way I can describe it," Hitchcock said 20 years later in the book, *Hitchcock* by Francois Truffaut (Simon & Schuster, 1967). "I really don't know how I came to indulge in it . . . When I look back, I realize that it was quite nonsensical because I was breaking with my own theories on the importance of cutting and montage for the visual narration of a story." He also referred to it as "a crazy idea."

It is, nevertheless, a fascinating show and is actually the only feature of its kind in the history of films. Its uniqueness alone gives it a certain monolithic stature and it is doubtful that it could have been done as well by other hands. In *Rope*, Hitchcock blazed a trail which nobody yet has followed. ■



Who says you can't get a million dollar look on 16mm?



Seated foreground, L. to R.: Lynn Roth, Executive Producer. Ernest A. Losso, Producer. Standing, L. to R.: Pete Norkus, 2nd Asst. Operator. Bob Porcello, 1st Asst. Al Taylor, Director of Photography. Camera equipment by Ultravision.

Photo by Bruce R. Mandes

Just take a good look at "The Paper Chase," on Showtime cable TV.

Commenting on the decision to switch the highly successful series to 16mm, Executive Producer Lynn Roth said, "At first we were apprehensive about using a 16mm system, and now, after seeing the richness in quality we have been getting, it would be hard for anyone to talk me into going back to 35mm."

Filmed with 16mm camera and lenses from Ultravision.

Why from Ultravision? Says Director of Photography Al Taylor: "Where you get your cameras and lenses is just as important as what make and type they are. The Ultravision people really care, and keep their equipment in immaculate

condition. Their 16mm camera is marvelously quiet, the lenses are sharp as blazes, and to change magazines takes just a second. I'm as pleased as can be." D.P. Al Taylor, born in Wales, is an Associate of the Royal Photographic Society of

Great Britain, Motion Pictures. He emigrated to the U.S. in 1952, and has been shooting films in Hollywood since 1954, with 38 features and approx. 1,000 filmed commercials to his credit.

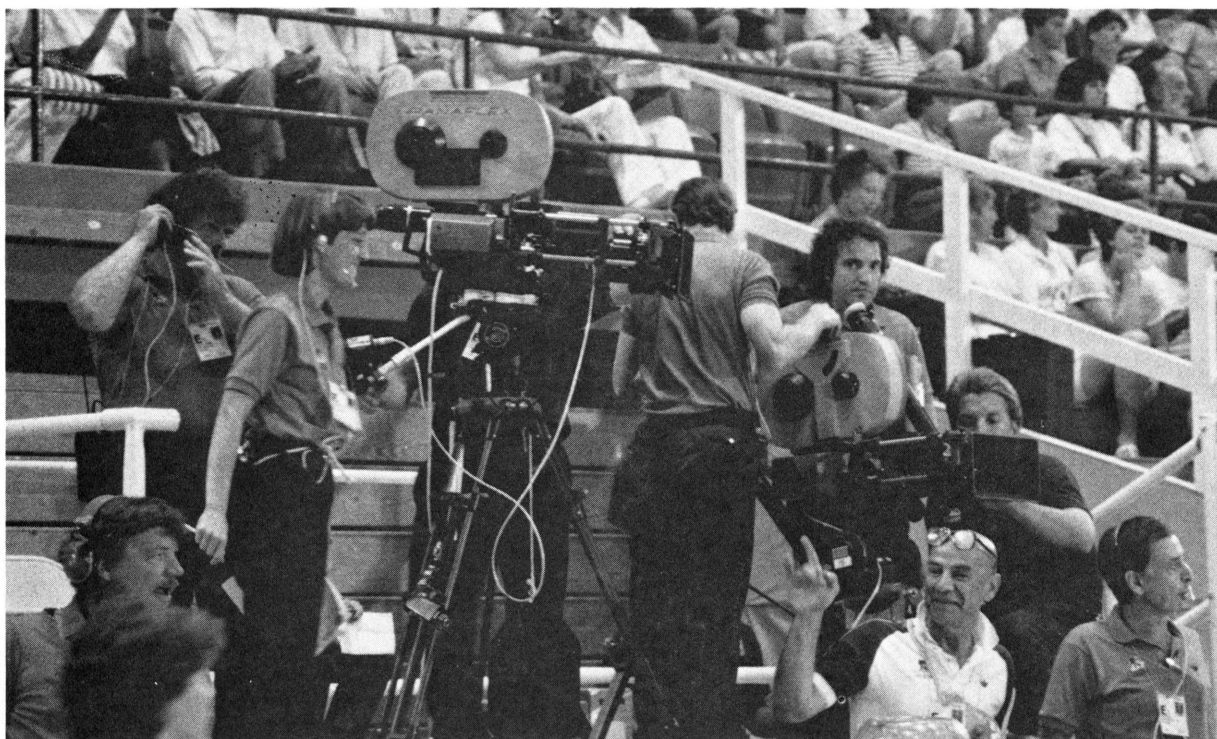
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Bud Greenspan and camera crew film gymnastics at Pauley Pavilion.

Olympic Cinematography

David Wiener

Every day of the 1984 Olympics, Cappy Productions held a regular afternoon planning meeting. Cappy is Bud Greenspan's company, and the movie they made is the official film of the 1984 Olympics.

Greenspan has the rights to film footage of the Olympics, just as ABC has the rights to the videotape coverage. According to the International Olympics Committee charter each event must appear for at least ten seconds. The

competitions not taking center stage in the movie will probably show up in a montage or under the credits.

"*The Official Film* is not going to be the title," said Greenspan. "That's too antiseptic. This is as close to fictional nonfiction as you can be. We create a story that perhaps most people don't see; we have the time to do it."

An example is the gymnastics competition. Everyone

knows about Mary Lou Retton and her win, but Greenspan plans to tell about her victory from the point of view of the Romanian girl who came in second.

"That's the poignant story," explained Greenspan. "You get both sides of the story which, for me, is what life is—for every winner, there has to be a loser."

Twenty-one months ago, Greenspan contacted Chuck Co-

hen, who was originally going to act as director of photography. Greenspan and Cohen have worked together for seven years and both have considerable experience with sports productions. Greenspan won several Emmys for his Olympiad series. Cohen has worked with most of the major production companies which do sports and was therefore familiar with the problems of a multi-camera shoot.

"The first thing we did," remembered Cohen, "was to get together with the LAOOC and find out the parameters for filming at all the venues. We went on a tour of all the venues and selected the camera positions we thought would be most appropriate for filming the sports."

There was a pecking order. ABC had first choice of camera locations. Cappy was second in line and the still photographers came third. But it all worked out very smoothly, Cappy getting about 90 per cent of requested locations. Only once did a Cappy film camera share a platform with an ABC video camera: during gymnastics. This caused no problem, as Cohen says, "because most of the guys who are on this film as operators have done sports films before and are used to working side by side with video coverage."

In fact, the film crews got more leeway than Cohen had thought possible. When Mary Decker fell during the big race on August 10, Cohen was able to get a hand-held camera onto the track to record her catastrophe.

Greenspan had at first planned to use 25 camera operators. This was cut down to 20 and again reduced to 16, the number Cappy actually used throughout the shoot.

"It's probably the fewest ever used for an official film in modern-day Olympic history," said Cohen.

Michael Samuelson has worked on six Olympic movies. His comment was that this is consistently the best footage from a technical standpoint he's seen on



an Olympics project of multi cameras in his life." Samuelson described the shooting strategy and arithmetic. "Knowing you've got 16 cameramen out there," he said, "they don't always have to be in focus and in frame. You can take a chance. The Olympics are different. We've got 16 cameramen and 16 days of Olympics; multiply 16 by 16, that's 256. If we're looking for 90 minutes of film each day, we're looking for something like 30 seconds of film (from each of them). So that 30 seconds had better be good. Otherwise it won't get in. There's no room for mediocrity."

This opens up some opportunities for the risk-taking cameraman. Television goes out live to the world, so the emphasis is on coverage. In the official film, a cameraman can isolate a relay baton with a 1000mm lens. If 20 feet out of 200 is in focus, that 20 feet, as Samuelson says, "will be spectacular."

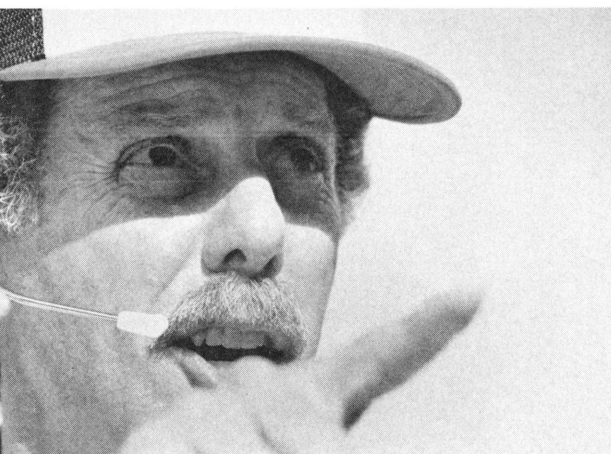
"It doesn't matter that the rest is out of frame or focus," he continued. "The duff film winds up on the cutting room floor and that 20 feet hasn't been seen on TV."

Chuck Cohen was also convinced that the operators

All exteriors were shot on Fuji film without the use of an 85 filter.



Joe Valentine at the Coliseum.



**Michael Margulies,
ASC**

should gamble. "One of the guys did a shot during the preliminary relays just isolating the hand, waiting for the baton to come in, with a 300mm lens. In slow motion he got the baton landing in the guy's hand, a pretty spectacular moment."

The basic camera package at the 23rd Olympic games was an Arri III, a Panastar, a Panaflex with a 10 to 1 zoom and a 2X extender. To complement this, the ground crewmen had a 1000mm lens. Three 500mm lenses were used with 2X extenders as well as Canon 300 and 400mm lenses and two 24 to 460mm zooms.

Sports filming always involves slow motion. "The head-on camera on the field," Cohen said, "past the finish line, looking straight down, is our isolation camera which shoots somewhere from 60 to 125 frames per second and uses anything from a 400 to 600 to 1000mm lens, isolating whomever Bud decides coming down the stretch. We also have someone at the starting line getting hands and faces of particular participants."

The cameras performed as well as the athletes, but there was a bit of preparatory work required. Madeline Most, Cappy's liaison with Panavision, had each camera on the bench from three to four days, converting the machines for Fuji film. As the official film of the Olympics, Fuji provided the stock without charge.

"We have 21 35mm cam-

eras," said Most, "and two 16mm cameras. But Panavision is designed to Kodak specs. The adjustments took from the end of May to June and we got the cameras about three days before the shoot."

"There are about \$3.5 million worth of cameras on this. Six to 10 thousand feet per day go through each camera, making for a total of a million feet of film."

Jac Holzman, of Panavision, was enormously proud of the company's product. "The footage looks just gorgeous," he said. "We never expected to provide the equipment. There was a camera rental facility in Los Angeles which claimed they were handling the Olympic film and we never made any effort to reach for it. On inspection of the various facilities in town, it turned out that because of the enormity of the shoot, there was only one place you could draw 24 cameras with all the lenses needed, and that was Panavision."

Originally, the film was to be a non-union project. However, a contract was eventually signed so the union procedures had to be followed. Under this system, four directors of photography were required, 16 or 20 operators and the loaders and assistants to service them. Chuck Cohen called Robert Collins to take over the duties of a director of photography. The work Cohen had done over the past year was fed into Collins' computer and he decided that his main task would be the organization of a staff of about 60 people.

Other directors of photography were then hired, Robert Primes, Michael Margulies, ASC, and Gil Hubbs. The crew was assembled, drawing on people Cohen had known from sports projects, as well as from Hollywood studios.

"Several guys turned out to be great sports operators," said Collins, "and even the ones who didn't turn out to be great sports operators were great technical operators and did the job we told them with no problem at all."

"Filming sports is a spe-

cialty," explained Cohen, "and what I tried to do in hiring operators was to get those with the most sports experience. There are about 12 who have a tremendous amount of sports experience. The others were hired through a series of recommendations and looking at footage. There were interviews where Bob Collins, myself and Gil Hubbs analyzed and chose the best."

The staff had a meeting each day during which the schedule was confirmed and the directors of particular venues discussed the athletes of interest. The directors of photography chose the best angles, lenses and frame rates.

Michael Margulies had more than a professional interest in the games. His wife, Carol, bought him a kilometer of the torch relay for \$3,000 last Christmas. he ran it the day before the opening ceremonies, between Playa del Rey and Marina del Rey.

"I'm a marathon runner and an ex-swimmer," Margulies explained, "so I was given the swimming event and the track and field. There was no lighting at those venues, so I didn't have to worry about that. I also didn't have to worry about it at the interior venues because of the lights ABC had pre-hung."

Margulies had also worked as a volunteer for two months with the opening ceremonies committee, preparing the ethnic parade. He became involved with the film, however, just a week before the Olympics opened.

"The camera positions were fairly well worked out by the time I got involved," he said, "and it went smooth as silk. A couple of times, the cameras were running low on film and the runners (who provided fresh stock) had to move fast and the guards sometimes didn't know who they were."

Gil Hubbs is an old friend of Robert Collins and the film gave them a chance to work together once again.

"I've known Bob for 15 years," said Hubbs. "We used to

do Wide World Of Sports with Bruce Brown when Bob had a company called Group One Productions.

"What I remember most was the high we got from the competition we were shooting. It wasn't like a regular film, you had to plan what you *weren't* going to shoot and make sure the operators knew what the director *didn't* want."

Sometimes, those plans had to be changed quickly.

"A story might develop on its own," Hubbs said. "For example, the men's gymnastics team looked surprisingly like they were going to win, so we had to alter our plan of attack for that evening and shoot everything."

The four by 100 relay was set for the afternoon of August 11. Eight cameramen were assigned to cover the meet, two high in the stands for a wide master shot from different angles. The other six were placed in field positions, two in the infield of the L.A. Coliseum and four along the outside of the track, one at each corner.

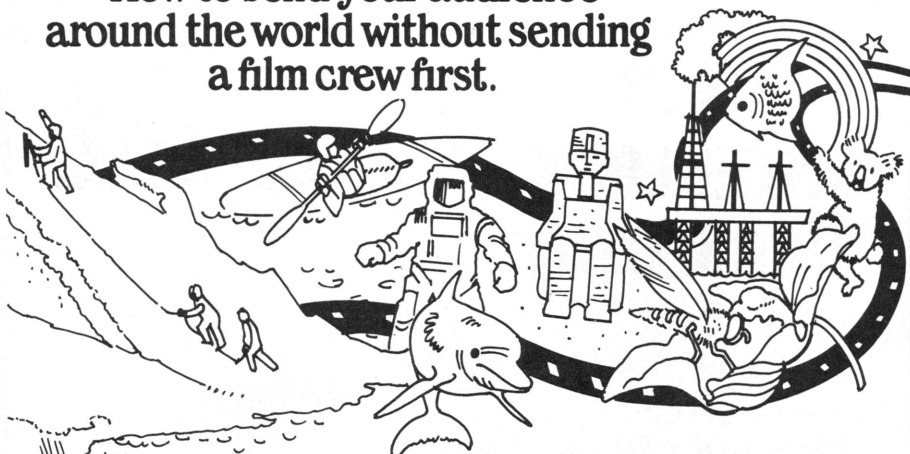
The master camera in the stands had a 25 to 625 zoom lens, which enabled the operator to reach out and cover runners and to stay with them all the way around the track. The ground camera provided the intimate and emotional impact shots.

"In all 21 events which had to be in the film," said Cohen, "there were only about four where we actually had hand-held opportunities. Otherwise, there were fixed camera positions." At the track events, there were two hand-held cameras.

In swimming and weightlifting, a hand-held camera followed athletes from the warm-up area to the competition platforms. Cappy was allowed to have a hand-held camera at the gymnastics competition for two days.

Only neutral density filters were used during the filming and two Fuji stocks were shot. "The 8511 was used for most of the exteriors, morning and after-

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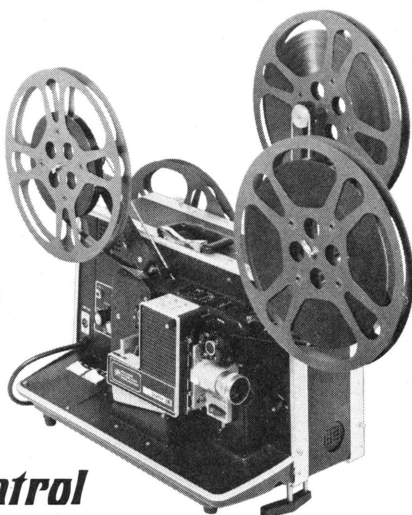
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noon stuff," said Cohen. One peculiarity of the Coliseum is that the backlighting becomes pronounced at about 3:30 p.m., as the sun dips towards the ocean. "All the action coming towards the finish line and a lot of the high jump, shot put and pole vaulting takes place in backlight," said Cohen.

To get the high framing rates needed, 8512 stock had to be used at that time of day and into the evening. "That stock really digs into the shadows," remembered Cohen. The highest ASA used was 640 for film normally rated at 320. All the interior venues were shot with high speed 8512, rated anywhere from 320 to 640 ASA.

"We shot volleyball at 640," said Cohen. "We read a 6.3 and we shot slow motion at 60 frames per second, so we were shooting everything at about 3.5. It looked great, gorgeous sharp color, right on flesh tone."

While each cameraman normally has an assistant, a sports photographer is expected to be a solo pilot. He must follow focus and use the zoom unassisted, should the need arise.

"One of the things that made this film successful," Cohen pointed out, "was the ability of the operators to compose and focus their own shots, and to follow the action tight enough to make it dramatic and exciting. When you're shooting lenses at 3.5 or 4 (and sometimes the Canon high-speed lenses which go down to 2.8), and you don't know where the action's going and you're coming home with the goods, well, everybody can be real proud."

Many of the operators on the film who have worked in studio settings got their start in sports work and were able to tap old skills.

"This is not like any other feature Hollywood production," Cohen continued, "where the director of photography reads the meter, lines up the shot and works closely with the director.



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You don't have time for all that in sports." Each cameraman has a spot light meter, takes his own readings and composes his own shot."

Greenspan directed the camera work by walkie-talkie from a vantage point on the field in the Coliseum, where so many of the highly publicized events took place. Because the venues were so close, discussions among the crew sometimes overlapped and there was some confusing cross-talk.

"You have to recognize every voice," Bob Collins pointed out, "so you know if the guys are talking to you or someone else."

Roger Daniel was the man in charge of the four sound mixers, as well as the single channel allotted for communications. A wireless microphone was placed on Mirella Moses during her husband's race for the gold. As the race was being filmed, she was isolated by another camera.

"She was pretty much beside herself the whole time," remembered Cohen. "She was going crazy. That was excellent footage and good sound."

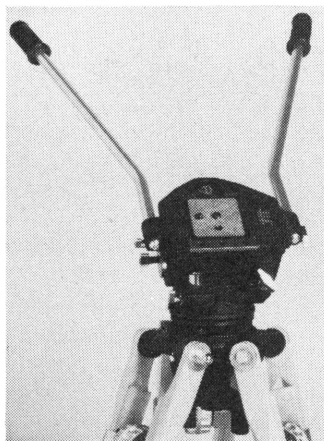
"You need people who understand the story telling process," said Bud Greenspan, "as opposed to what ABC does, which is the actual event. When you have people who tell stories, you've got it made." Greenspan takes some real delight in having film made to order for this project, rather than relying on previously shot news footage, as he has had to do in the past.

"Our problem is not what we want in but what we leave out," he said. "You see, we're going to end up with a sort of miniseries for television and a three-hour movie for theaters which is about 25% more than we anticipated because the stories have been so magnificent. And as a storyteller, you can't do it as ABC does in three and-a-half minutes. Some of our stories are ten minutes long, perhaps with someone who lost."

The closing ceremonies pointed up the differences be-



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tween the film and television technique.

"You can't extract the same impact from the closing ceremonies which will be four minutes long in our film and four hours on ABC," Greenspan said. "Since we couldn't use what Wolper was doing, we had to do what probably is to me the whole Olympic being. That is, the teams, the torch going out and the passing of the banner from Los Angeles to Seoul, Korea."

Greenspan saw his main task as one of condensation.

"We must do in three hours what ABC has done in 220," he said. "It's almost as if you were going to film a great battle scene on the Atlantic in a war, but you didn't have all the ships. So you make a demonstration version of it which is absolutely accurate. Very few people, if it's done marvelously, will know that it wasn't the real thing. We tell a 30 minute 10,000 meter race in four minutes and people think they've seen the whole race."

"We can control the rhythm because we're doing it in retrospect. There are advantages. The biggest advantage is the fighting that will take place as to what we leave out."

The man wielding the scissors was Andrew Squicciarini, who has been with Greenspan "on and off for five or six years."

"We had meetings in New York for the past year on this," he recalled, "looking over test footage that we shot in December at the Coliseum, going over positions, what events worked at high speed, what was the highest speed we could use. Everything's got to be done with two or three cameras, so the optimum speed with the least amount of waste was a concern."

Squicciarini and the producers did not cast any ideas in cement.

"You have to go in with a 20%, 30% strict idea of what you're going to do and maybe 70% is the flexibility," he said. "The general idea was the premier

events, the decathlon, the 1500, but we just didn't want to have track and field. Fencing, which is a very beautiful visual event, is not an event most people know or care about watching, but it is very pretty."

All footage was screened at a Los Angeles lab the day after shooting, using two high speed projectors. This tells the staff if there is a problem with a camera, if the opposition isn't right or if a particular cameraman doesn't know just what the producer wanted. Since some of the cameramen were not primarily sports photographers, these conferences let them know what they might do to improve.

"We had three flatbeds at our base station," said Squicciarini, "and we'd make notes in the morning ... and the cameramen could look over their reels ... see what they were doing, what we've criticized, what we should be looking for the next day."

This is a story film in which various athletes from different countries are followed. The events themselves are not the stars. They are seen through the eyes of certain competitors whose conflicts are most likely to involve an audience. Much of the background on the athletes was shot during post production. They will be shown preparing for their event and an effort to personalize the competitors will include their relationships with wives, husbands, and families.

It all started years ago when Michael Samuelson put together a crew to do the World Cup Soccer films, those productions with the crowd-grabbing shots of Pél  twisting through the air. Having been through several Olympics with British crews, he can look back with pleasure to his American Olympic experience.

"This was the nicest, most polite Olympics I've ever seen," Samuelson said. "If you're lost, people will not only tell you how to get where you're going, they will take you by the hand and show you."

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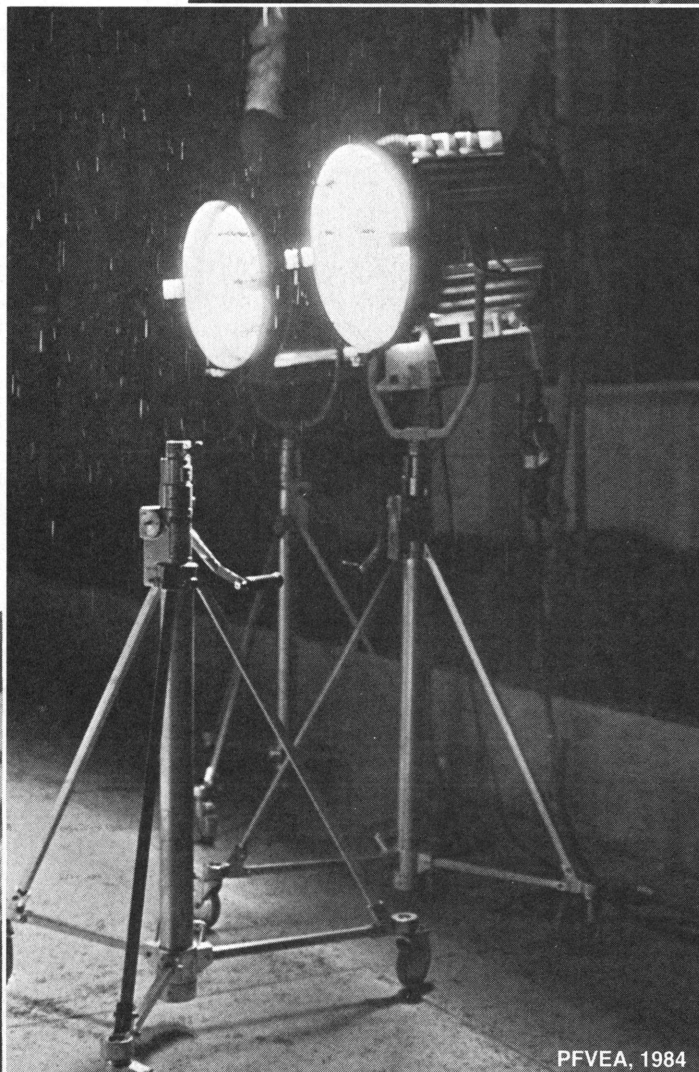
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Reginald Morris, BSC and

Turk 182

Donald Chase

Deciding to go for a generally cold, natural look was the easiest part of director of photography Reginald H. Morris' work on *Turk 182*. Getting it on film for director Bob Clark's large-scale, New York City-set action drama was quite another thing.

Overall, there was the problem of striking a balance between the desire for a strong sense of background with the use of the 1:2.35 anamorphic format, long lenses and, in night work especially, low light levels and wide apertures. Then there were the specific problems arising from difficult locations. A subway station and tunnel, a burning building in Brooklyn, a jail in Newark, New Jersey, and, most difficult of all,

the Queensboro Bridge were used to tell the story of a graffiti writer (Timothy Hutton) and his fight against bureaucratic injustice.

As for shooting anamorphic, Morris says, "I was elated when Bob Clark told me he wanted to shoot *Turk* in the 1:2.35 format. I had tried to convince him to go anamorphic on a picture we did together in England several years back—*Murder by Decree*. Someone rather foolishly told him that he shouldn't, because he'd lose the tops of the sets. That isn't the way to look at it—you're not losing the tops of the sets, you're adding to the sides, giving yourself a whole new range of possibilities in terms of composition, and, in fact, coming

closer to what the eyes actually see."

But all these advantages are counterweighted by distortion-prone wide-angle anamorphic lenses—the very lenses most suited to the sharp backgrounds Morris wanted to get. "After a struggle and much testing," he relates, "we finished up shooting the bulk of the picture on three Panavision Superspeed lenses, the 50mm, the 75mm, and the 100mm. But we tried to keep them as sharp as possible by doing without diffusion whenever we could."

Also detrimental to the depth of focus were the light levels—often 6 to 8 footcandles—and the apertures—commonly T2 and occasionally 1.8 and 1.4—Morris worked at while shooting *Turk*'s night exteriors. (Outdoor night work accounted for seven weeks of the \$14 million film's 14-week schedule.) Kodak's 5294 stock, rated at 400 ASA, was a help here, but still, on close-ups the backgrounds tended to be out of focus. Morris admits that, rather than fight a futile battle, he sometimes took advantage of the weirdly beautiful patterns of light he got when street lamps went out of focus.

As for *Turk 182*'s difficult locations, Morris spent two nights on a subway-station platform and three nights in a proximate tunnel shooting a key sequence. The corrupt Mayor of New York (Robert Culp) and a party of 100 wait on the platform for a special train, only to discover that "Turk 182"—as Hutton's graffiti writer signs himself—has managed to stop it in the tunnel and cover it with embarrassing slo-

Morris and crew shooting on location in New York.



Photos by Michael Ginsburg

gans. Lighting the platform was a simple matter of hanging fluorescents with cool white tubes to match the existing lighting in the station. Portable cool-white fluorescent units added light where necessary and the lab - TVC - corrected for this. Lighting the tunnel was a hard task made harder by the earsplitting noise of passing trains and the carbonized dust they stirred up.

"Before the train appears in the tunnel," Morris says, "Timothy Hutton is lit only by the flashlight he's carrying. The flashlight was supplied by my gaffer electrician, Jim Dolan, and the beam would give me maybe 100 footcandles at 15 feet - though it was hard to measure and hard to know exactly what you were getting on film with it.

"When the train stops in the tunnel," the cameraman continues, "the problem of mixing incandescent with fluorescent lighting began to rear its ugly head. The majority of the shooting had to be done with the inkies converted to match the cool white of the train interior. A limited number of shots we were able to do normally, and again the lab did an excellent job of pulling the footage in line.

"To simulate the light that a train passing on a neighboring track would cast on a person standing in the tunnel, Jim Finerty, the key grip, and Jim Dolan at very short notice put together a revolving drum which fitted the top of a lamp stand. Inside was mounted a 'tweeny' and the outside perimeter had thin and thick perpendicular bars with 'soft frost' mounted in between. When revolved, the effect was remarkable. Not new, but very effective."

The scene in which stuntman Dar Robinson - doubling for Robert Urich, playing Hutton's firefighter brother - jumps from the roof of a burning apartment building in Brooklyn's Bedford-Stuyvesant district was shot at 96fps. This means killing all the street lamps over the best part of a city block, to avoid flicker, and simulating their illumination with

splashes from inkies hidden behind buildings on the opposite side of the street. It also meant backlighting or three-quarter backlighting Robinson and positioning the three cameras covering the action very carefully, because, as Morris explains, "it's so much easier for an audience to spot a stunt double in a slow-motion scene."

The cameraman made no attempt to simulate flames with lighting. "It's surprising how much flicker the real flames - created by Al Griswold's effects team in the windows of the top two floors of the building - provided themselves," he says. Griswold's flames also tended to outline Morris in the interior shots of the burning building, which were done during *Turk 182*'s month of stage work at Kaufman-Astoria Studios in Queens. "It was almost possible to shoot the interior fire material without lighting; my lighting was mainly a cover."

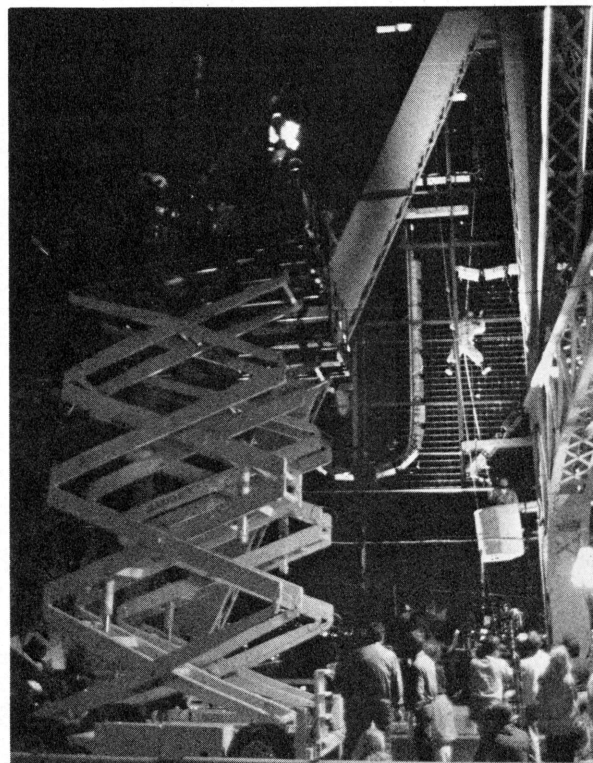
Dar Robinson also did a jump from the upper tier of Essex County Jail, in Newark, landing on a balsa wood table. (Morris credits production designer Harry Pottle with an extraordinary job in resuscitating the derelict facility.) This, too, was shot at 96 fps, but in contrast to the burning-building night exterior, Morris was able to get enough exposure by augmenting practical lighting with four 8K HMI units, which he aimed through the jail's two-story windows.

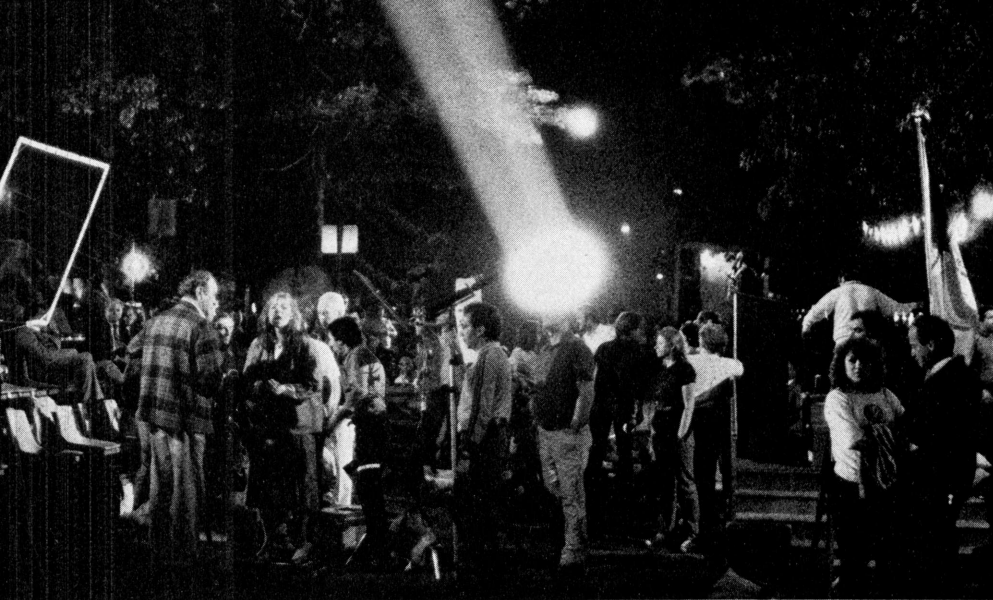


Morris' biggest challenge on *Turk 182* came during the three weeks he spent shooting on the Queensboro (or 59th Street) Bridge and on Roosevelt Island, underneath the bridge in the middle of the East River. In the film's climactic sequence, Hutton is rope-tied into the girders 60 feet above the bridge's upper roadway. There he unbolts the many of the 18-inch reflectors containing red light bulbs that spell out "QUEENSBORO 1909-84" in 18-foot letters, and rearranges them to read "TURK 182." The sign is

The Queensboro bridge after the graffiti writer has rearranged the lights.

A scissor lift and a cherry picker were both used in filming Timothy Hutton on the girders of the Queensboro Bridge.





searchlight on Roosevelt Island 250 feet from the bridge served as an on-camera source.

his ultimate attempt to shame Mayor Robert Culp, who is on Roosevelt Island to attend a brass-band, red-carpet rally in his honor.

Six months before the start of principal photography, before there was anything like a final script on *Turk 182*, Morris shot some test footage of the site, looking first from the bridge toward Manhattan and then from Manhattan toward the bridge. The idea was to determine exactly what could be seen in the existing nighttime lights. From this footage – which Morris had developed at two labs as a comparison – flowed certain ideas.

The cameraman noticed, for example, that while the 1:2.35 aspect ratio was well suited to long shots of the bridge, a lot of ingenuity and improvised rigging would be required for close-ups of Timothy Hutton working on the river side of the girders. This was eventually done by shooting Hutton

from helicopters and a cherry-picker. Usually the cherry-picker bucket was swung out over the river to shoot Hutton in the girders, but Morris also mounted two floating dummy 18-foot letters 10 feet inboard on the bridge roadway so that the camera could actually be on the bridge while giving the effect of being out over the water.

Following his and director Clark's idea of giving *Turk 182* a natural look, Morris decided after looking at the bridge, to cover any lights he brought on the roadway with orange gels, in order to enhance the sodium vapor lights already there. And he thought about integrating on-camera searchlights into the Roosevelt Island political rally – an idea that was later written into the script.

Closer to principal photography, Morris shot tests of the 18-inch metal reflectors that would make up the sign. "The object of the tests," he explains, "was to find out the bulb wattage that would give us the maximum spread of light, without the centers of the red bulbs turning white. We were able to do this in the studio by simulating conditions with 25, 40, 60, and 100-watt bulbs, of which the 40 proved to be the most satisfactory. But if the conditions of light levels and apertures could be simulated in the studio, the New York skyline could not. So as soon as we got a satisfactory bulb, we put an 18-foot letter on

the side of a truck, parked the truck on the 59th Street Bridge at night, and shot a test."

The 3,000 40-watt bulbs comprising the sign had to be able to flicker and go on and off to order. During principal photography a truck containing wall-to-wall dimmers took care of this. "But in this connection," Morris notes, "we had to be very careful about the placement of HMI's on the bridge, since they cannot be made to go on and off or flicker."

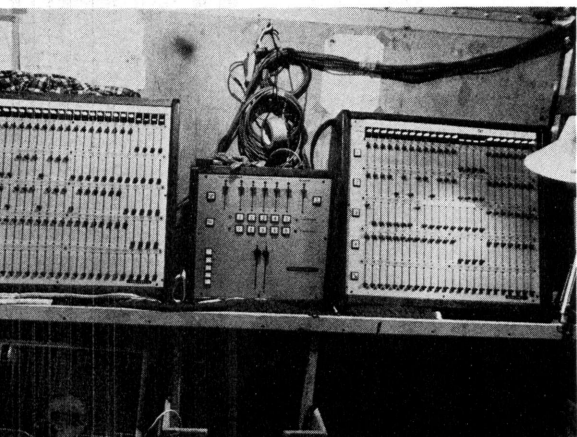
Despite Morris' tests and other forms of pre-planning, principal photography on the bridge and Roosevelt Island involved day-to-day modifications. "I had originally planned to go with four searchlights," he says, "but they came to me and said, 'Look, the searchlights cost a fortune, can you cut back on any?' I did, and in fact shot a lot with just two of them because the third and fourth" – positioned on the East Side of Manhattan – "weren't in shot a good deal of the time.

"As the searchlights swept back and forth across Timothy Hutton in the girders," Morris goes on, "he became 'burned out.' To balance them would have been unrealistic. Even so, there's burning out and there's burning out, and I had to take the intensity down for frontal shots. I did this by attaching three layers of fly screen to the searchlights.

"I have to say at this juncture that I admire the courage of Timothy Hutton, who performed in the girders 250 feet up in the air. And I have great respect for Harald Ortenburger and Hank Muller, the operator and assistant, who on a number of occasions hung precariously over the river in the bucket of the world's largest cherry-picker."

While up in the girders Hutton was also shot from down below on Roosevelt Island; from the terrace of an apartment building on Manhattan's East Side (whose lack of depth limited framing possibilities); and from the roadway of the bridge, both from the cherry-picker and from atop a

the dimming system used to control the bulbs in the letters on the bridge.



scissor lift. In fact, three scissor lifts were pressed into service for several shots. One held the camera, a second the lighting equipment, and a third - on camera - actor Peter Boyle, playing a police department official dispatched by the Mayor to convince Hutton to discontinue his dramatic protest.

In all of this, Morris' great problem was measuring the light on Hutton, from whom, except on the scissor-lift material, he was 60 feet away. "There were two courses one could take," he says. "Either a calculated guess, which may turn out to be very expensive, or the one I took: pointing the lamp down to ground level and standing approximately the same distance away from it as Timothy Hutton would be, to take a reading. The same problem arose with the two on-camera helicopters, one white and one navy blue, that figure in the bridge sequence. It really became a headache trying to keep them from getting burned out one minute and invisible the next."

Working at low light levels and wide apertures occasionally threatened to escalate Morris' headaches to migraine proportions. "You will appreciate," he reasons, "that an error of two footcandles at a key light reading of 125 means nothing. However, at a key light reading of 4 or 5 footcandles, the error becomes intensified. This is further aggravated by the fact that I like to work in fractions of the key light, that is, half key, quarter key, eighth key, and so on, but with such low readings, this was not a practical proposition."

Mitigating against the various difficulties Morris faced on *Turk 182* were several factors.

There was the skill of the crew at TVC labs - with whom he had to communicate via a third party, film editor Stan Cole, for much of the seven weeks when he was shooting at night and sleeping during the day.

There was his familiarity with the working style of director

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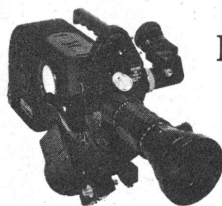
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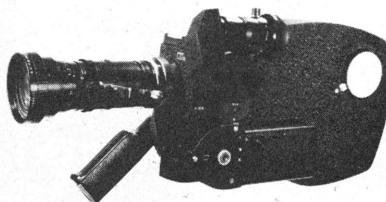
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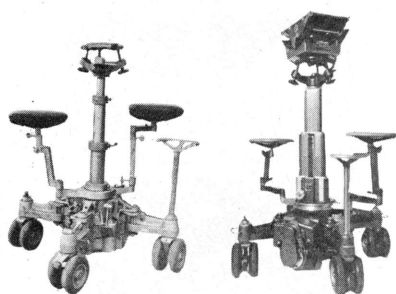
Bob Clark, for whom he had earlier photographed *Tribute*, *Porky's*, and *A Christmas Story*, in addition to *Murder by Decree*. He was accustomed, for example, to Clark's practice of tentatively sketching out an entire film on cards that would later be formalized by a sketch artist, but he knew, on the other hand, that the sketches "are, at best, a rough guide. Though the burning-building scene might have stayed pretty close to the original plan, in general where the camera is placed is an arbitrary matter."

Also helpful to Morris on *Turk 182* was his preference for the "English system" of working, which increases the responsibilities of the camera operator in terms of determining camera set-ups and leaves the DP more time to devote to lighting. Morris is himself a former operator who worked in his native England on such films as *Odd Man Out* and *Moby Dick* before emigrating to Canada, where his operating credits include *The Fox*.

It was probably Morris' backlog of experience that was his strongest asset in meeting *Turk 182's* many challenges. And participating in over 300 features, and TV shows, since entering films 50 years ago at 16 has something to do with the resourcefulness that had him stealing shots of New York City's Fourth of July fireworks display for *Turk*. When cut into the 59th Street Bridge sequence, audiences will assume the fireworks are part of the hoopla staged especially for the mayor.

Since finishing *Turk*, Morris has acquired some brand-new skills by shooting the Canadian rock group Yes in two performances in Edmonton. Following a film-to-tape transfer, his footage will eventually be edited down into a one-hour TV show. "I saw lamps," he says, "which could pan, tilt, flash, dim and change as many as 12 gels, all of which were remotely operated from an organ. Why aren't we taking advantage of them in the feature-film industry?" ■

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A PASSAGE TO INDIA

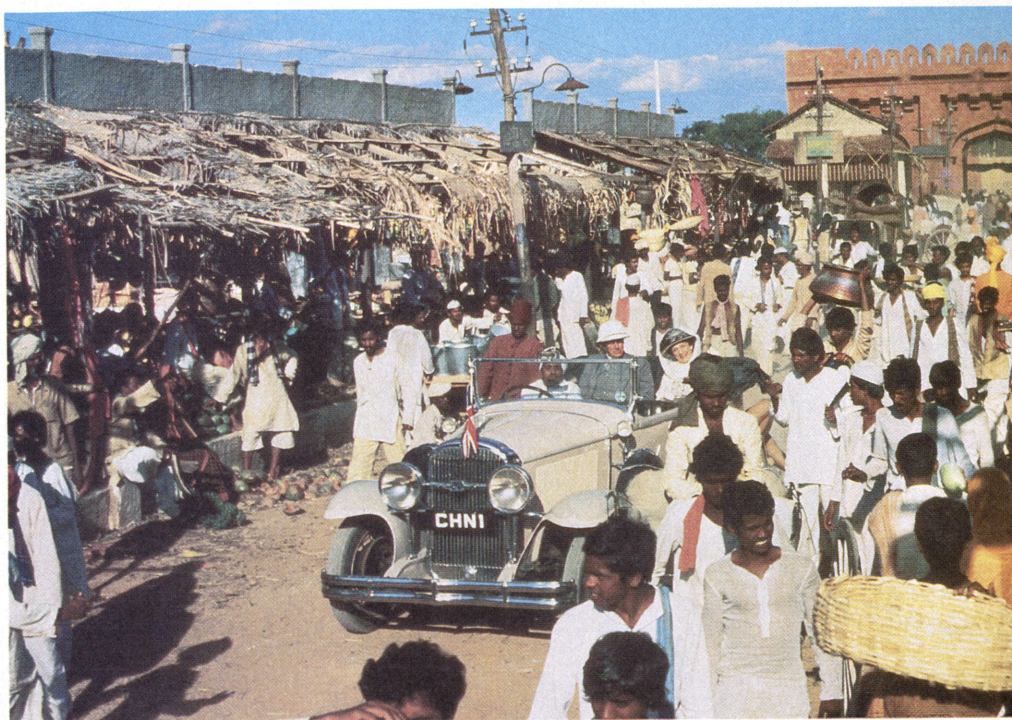
Ernest Day, BSC

*Dr. Aziz and Adela
approach the caves.*



A Passage to India is an adaptation of E.M. Forster's novel set in India in 1928. It is essentially a story of the conflict of cultures as embodied in the lives of six people in India, and is considered a classic of modern English literature. David Lean first became interested in adapting it to film when he saw a stage adaptation of it about 20 years ago, but Forster was initially unwilling to sell the film rights, apparently for fear that a film would not fairly present both the English and Indian sides of the conflict. When Forster died in 1970 the rights became the property of King's College, Cambridge, and were eventually sold to John Brabourne and Richard Goodwin, the producers of the film, who had also been pursuing the rights for over 20 years.

My involvement with the film began with a phone call from London while I was dubbing a film I had directed at the then Goldwyn studios in Los Angeles. I had been the camera operator on David's last three pictures, *Lawrence of Arabia*, *Doctor Zhivago* and *Ryan's Daughter*, but had since moved on to work as director of photography or second unit director on several films. After doing second unit direction on *Moonraker* and *The Spy Who Loved Me*, I was offered a picture to direct called *Waltz Across Texas*. Directing and creating my own films is really my all consuming passion, but an invitation to photograph a film for David Lean is, in my opinion, the highest film industry accolade for a cinematographer. Every picture he has directed since *The Bridge On*



Above: A complete bazaar was constructed on the palace grounds in Bangalore. Left: Ernest Day and David Lean on location in Kashmir.



Above: Fielding and Aziz bid farewell in Kashmir. Right: Dr. Aziz is carried triumphantly away from the courthouse as the rains begin. Bottom: Dr. Aziz (Victor Banerjee), Godbole (Alec Guinness) and Adela (Judy Davis) cool their feet as they chat.



the River Kwai in 1957 has won an Oscar for cinematography. Needless to say I accepted the offer.

As everyone knows, many things can go wrong between the time one agrees to be part of the team making a movie and the actual completion of that project, and I admit I offered up more than a few prayers that this particular project would reach fulfillment. There were the inevitable long delays and many of us on the sidelines of the various momentous negotiations were beginning to have doubts that *A Passage to India* would ever appear on the screen. As usual the main hurdles appeared to be monetary, and to add to the concern hardly a day seemed to go by without some story of another project collapsing. I personally have the greatest respect for film producers who have the expertise and the tenacity to negotiate the jungle of financial and legal headaches surrounding a film. *A Passage to India* was certainly blessed in this category with producers John Brabourne and Richard Goodwin. Goodwin had spent the first ten years of his life in India and the two first worked together on *Harry Black and the Tiger* (1958), a picture which was John's first as a producer and involved location photography in India. More recently they produced the series of Agatha Christie mysteries from *Murder On the Orient Express* to *Evil Under the Sun*.

By September 1983 things had progressed far enough on *A Passage to India* for me to go to India to see the locations David had selected during the previous six months. It was not my first time in India. I had spent some eight months there during the early 1950's as a Technicolor technician working on an Indian film directed by Sohrab Modi and photographed by Ernest Haller, ASC, who had previously won an Oscar for the photography of *Gone With The Wind*. Even after all those years memories came flooding back, and I do mean flooding because I arrived in a violent rain storm in the early hours of the



morning. Anyone who has witnessed the lower castes in their corrugated-iron roadside hovels coping with Indian monsoon conditions will know what the scene was like.

In contrast the offices and accommodations for *A Passage to India* were located at the West End hotel in Bangalore in the state of Mysore. Bangalore had been chosen as the principal location for the film, standing in for Forster's fictitious Chandrapore. The Maharajah's palace in Bangalore, about a ten minute ride from our hotel, has extensive grounds that production was able to use as a kind of back lot on which to construct sets. Economically, of course, this arrangement was near perfect – minimum unit travelling time plus almost 100% crowd control in a country renowned for inquisitive citizens appearing in thousands, filling the screen inevitably where they are not usable photographically or during a particularly difficult and tender dialogue scene.

Numerous sets were constructed on the palace grounds including a whole complex of bungalows covering what must have been five or six acres and a complete street for a bazaar which

I defy any viewer to recognize as a set rather than the real thing. David was very excited about this quasi studio lot, and his enthusiasm was infectious as we walked around partially built sets and pegged out grass-covered spaces where other sets were to be built.

In addition to the sets constructed on the palace grounds there was also a set built in the grounds of the hotel which included a lily pond and we were able to take advantage of some marvelous trees similar to banyan trees which cast lovely shadows over things.

One of the bungalows on the palace grounds was to be used for interiors as well. It was revamped so that it could serve for different interiors and it was built in such a way that shooting in it was like shooting in a real Indian house. One wall was designed to float but the others required considerable effort to move. It was intentionally built to encourage lighting and shooting in the way one would in a real building. One result of this was that in some cases I had to use more bounce light than I might otherwise have done. The fact that the furnishings in an Indian house tend to be sparse also made it more difficult

to conceal lamps within the set. On top of all this we decided to shoot without 85 filters on the windows in order to get the effect of sun streaming in the windows and we didn't want to mix incandescent light with daylight.

A crucial scene in the story takes place at the Marabar caves and David had selected two locations for these scenes: Ramanagaram and Savandurga. There were no natural caves at the locations but there were spectacular granite cliffs with varied colors in the rock. The cliffs faced south so that they had full sun hitting them all day. Photographically the location was absolutely wonderful but it was necessary to create entrances that appeared to lead to large caves. The cave interiors were sets constructed later on the stages in England, but the entrances were blasted out of the face of the mountain. As the locations involved were somewhat remote, the Indian craftsmen lived on the site and worked in shifts to complete the work on time. Initially there were some complaints from people about what was happening to their countryside, but in the end everyone realized it was not doing any damage. The holes in the rock, however, are there for

Judy Davis as Adela Quested exploring the countryside around Chandrapore.



Dr. Aziz helps Adela onto the elephant for the trip to the caves.



good and required a monumental effort to create.

Six hours car drive from Bangalore, on a plateau 7,220 feet above sea level is the town of Ootacamund – affectionately known as Ooty to the British army in the days of Raj. It is approached from the plain by a rack railway, and it is this track with its steam train and wooden carriages, winding through stunning scenery which was selected for the sequence in which Dr. Aziz and the two English women ride the train on their way to the picnic at the caves. Some of the train interiors were filmed on the stage at Shepperton, but the scenes in which Dr. Aziz does his Douglas Fairbanks number hanging on to the outside of the train were filmed on the ancient steam train – with Victor Banerjee doing his own stunt work.

Other locations for the film were in Delhi and in Kashmir, where the final scenes were shot. Dr. Aziz's office was built overlooking the wooden bridge of Fateh Kadel spanning the Jhelum

river at Srinagar in Kashmir. It was an extremely picturesque location and the interior scene was played continuously with a background of large leaded windows forming two sides of those situations where one longs for consistent weather outside to avoid the time consuming light balancing act inside.

By the time I went location scouting with David the locations themselves had already been set. I was primarily concerned with two things: discussing the photographic possibilities with David in each location and assessing the equipment required for the production.

In conversations with the director and the producers about the style of photography essential to the film it was unanimously agreed that the overriding mood to create was of oppressive, morale-sapping heat for some 80% of the movie – both in the scorching dry season of the story and the humidity of the monsoon period. My preference for not resorting to any kind of filters to achieve this effect

suited David's conception of the film as well as his penchant for sharp focus. We agreed that we wanted the heat to look real and that hard shadows were a way to accomplish this. As a result we were prepared to wait for a hazy sun to clear rather than shoot in light which softened the shadows—particularly on a location like the caves.

David, of course, has a reputation for waiting until the weather is right to get a shot or waiting until everything is right. There's no point in trying to hustle things along with him by shooting things which he does not want in the movie or which affect performances of actors. When we were shooting *Ryan's Daughter* the call sheet might have five different calls depending on what the weather was like the next day. We did not have to resort to that on *A Passage to India*. In fact we were extraordinarily lucky. There were two sequences which required rain and I was afraid we might be faced with bright sunlight when time came to shoot them. Instead we had exactly the number of overcast days we needed. Also David is not unrealistic. We were supposed

to have a lot of snow on the mountains when we went to Kashmir to shoot, but unfortunately it did not happen for us. We were forced to rethink the shooting there and it was accomplished on schedule.

One thing must be understood about David's determination to wait until everything is right before he starts shooting. He is so prepared that once he does start shooting it goes like clockwork. Because of his experience as an editor and his overall mastery of cinematic storytelling, he is able to shoot only what is really needed. On *A Passage to India* from day one of principal photography David made it clear that there was to be no "print that take, now one for safety's sake." With him there is no "let's shoot the scene and see what happens" approach to putting things on the screen. Rehearsals were times of intense concentration both for cast and crew—time well spent, resulting in a shooting ratio of something like 3 or 4 to 1. Every shot was composed for maximum impact and, when visually exhausted, dismissed with a brief "Cut." You may spend a lot of

time waiting for the haze to clear, but once David's in gear, your feet don't touch the ground.

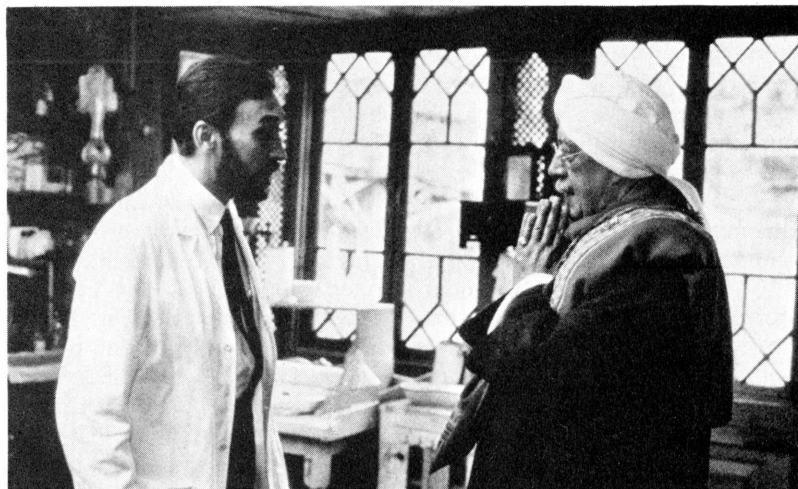
With this in mind I felt I had to be especially careful in selecting a crew for the production. David is reported to have said once, "Good films can be made only by a crew of dedicated maniacs." He is very intent on the movie. Once he starts shooting it is as though he has no peripheral vision. The movie is it; that's life. Needless to say, not everybody is suited to that kind of working atmosphere. Also it had been 14 years since he had worked with a crew so I felt it was doubly important to select people who would fit in with his working style. I got together with Richard Goodwin after the location scout in India and fortunately we were able to come up with a crew that worked out very well.

In addition to visiting the locations in India I spent many hours with John Box, the production designer, discussing the film and examining sketches, drawings and cardboard models of sets before returning to England. Even before I went to India I had discussed equipment requirements



A camera boat on the lake in Kashmir

David and Godbole in
David's office with the
windows overlooking
the bridge in
Mumbai.



with Richard Goodwin and expressed my wish to use HMI lighting. Simply on the basis of the script and of what I knew about India, I concluded that HMI's would be better because of their easier operation in remote places and the absence of well maintained carbon arc lamps in India. Two crystal-controlled alternators and heavy HMI lamps had already been sent to India by sea by the time I returned from the location scout. It only remained for decisions to be made about smaller ancillary electrical equipment which would travel by air. It was agreed that local incandescent housings would be used but that the globes would be imported from the U.K.

As it turned out there was one occasion when we used four local Brute arc lamps in addition to the HMI's on a night sequence. We managed to get some mechanisms and carbons from England, but the Indian D.C. generator and the lamps themselves had seen better days. As a result there was a good bit of carbon flicker and shouts of "trimming" just when the actors were up to speed and ready to go. The gaffer, Alan Martin and I were thankful to get back to the stability of the imported lamps. I might add that the Indian electricians were extremely competent technically and their uncomplaining, cheerful hard work was much appreciated by the British cast and crew.

We took two cameras, a Panaflex Gold and a PSR as a backup camera. I think the PSR only came out of its boxes two or

three times. The adjustable eyepiece on the Gold came in particularly handy in actual locations or sets where it would have been too time consuming to move walls. Even though we had two zoom lenses, a 20 to 60 Varo Panchro and a 10 to 1, it is difficult to see an apparent zoom shot in the whole movie. These lenses were used mostly for their intermediate focal lengths and in this respect they were a practical aid. Panavision prime lenses were used on a high percentage of the interior sequences and in combination with Eastmancolor 5294 allowed light levels which were comfortable for cast and crew. All day exteriors were shot on Eastmancolor 5247.

We used a Fisher dolly and the camera movement in the film is economical – not visually complicated but precise.

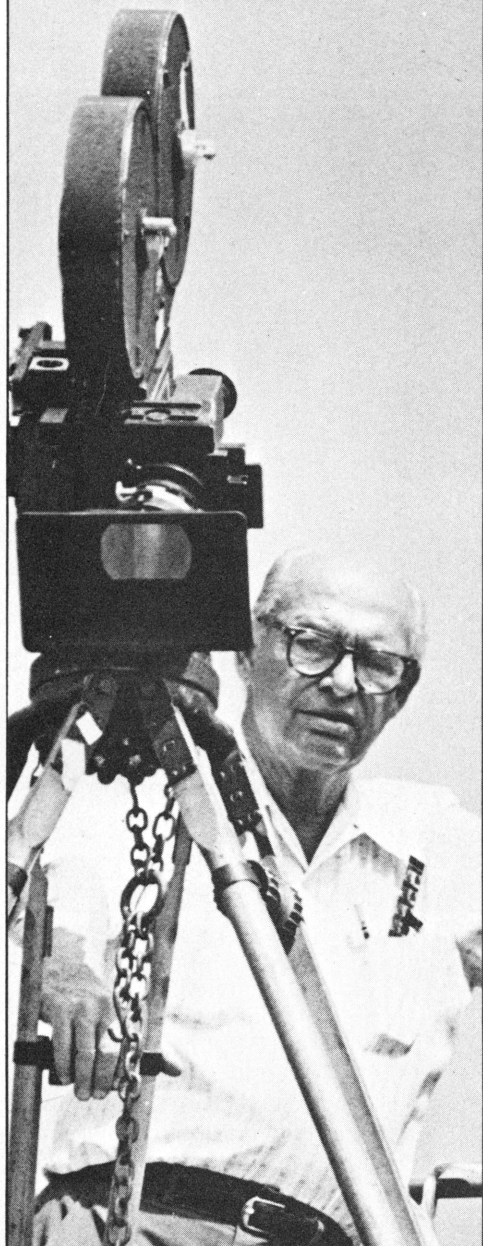
Partially because of the involvement of Home Box Office in the production, *A Passage to India* was filmed with spherical lenses and an aspect ratio of 1.85:1. HBO did not want us to use a hard mask, so we marked the ground glass of the Panaflex Gold with two vertical side lines to indicate TV cutoff. Sometimes there were moments of indecision about what to include in the composition to keep both theater and TV audiences happy. David's last four pictures were either anamorphic or 65mm, and I think I am right in saying that he and the producers both would have liked to shoot *A Passage to India* in 65mm if the budget had allowed for it and the climate in the exhibition/distribu-

tion side of our industry been sympathetic to it.

There were no front or rear projection process shots for the film, but we did use some glass shots for scenes of the ship landing in Bombay and the governor coming ashore to eliminate elements inappropriate to the period. Incidentally David did not insist on absolute authenticity in the production design, probably because it was felt that the period for the film (ca 1928) was not a particularly attractive one either in overall life style or costume design. There had to be a reality about both sets and clothes but nothing was written in stone.

In addition to the location work in England we returned to Shepperton studios to shoot sequences including the interior of the caves, some of the train interiors, the exterior of the ocean liner and the courtroom. Unfortunately space was limited at the studio and we had to make do with one large stage and one small one. The courtroom set was quite a big one and we had some difficulty positioning the lights. The set was backed right up against the painted backing and we were using something like ten brutes to create the intense light associated with the heat of India. This was complicated by the fact that we were shooting in summer and the ventilation left something to be desired, but Alan Martin and his electricians enabled us to get what we needed. When did a director of photography not want more space between the windows and a painted backing or less height to the sets or more places to hide lamps or quicker ways to make good the plaster of a wall he would dearly love to take out? More time! More space!

Finally I would like to acknowledge the incredible concentration and enthusiastic dedication of the camera crew on *A Passage to India*: Roy Ford, camera operator, Frank Elliot, first assistant, Martin Kenzie, second assistant and Chunky Huse, an outstanding grip. ■



This man:

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- Made Paul Newman and Robert Redford leap 80 feet into a rocky creek
- Destroyed the world's tallest building.
- Sent Raquel Welch on an odyssey through a man's bloodstream
- Fed James Mason to a giant lizard.
- Sliced his boss's son to ribbons with laser beams
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The children frolic
on a mountain slope
in summer.



Photos by Hermann Schulz

The Swing

Les Paul Robley

The Swing has been described as a nonmusical *Meet Me in St. Louis*. The old world charm of turn-of-the-century Munich—a time when residents looked upon the pursuit of pleasure as a full-time profession attending ballroom dances, piano recitals, garden parties, bicycle rides and spectacular mountaineering hikes—paints us a world perched precariously on the edge of a swing, ready to take that downward plunge into world war and accelerated progress. *The Swing* is a kind of memory piece, reminiscent of a gentler, less frantic time. It unfolds like a page of history, as it tenderly celebrates the passing of a dying social order, examining it to the point where we see our own future emerging from it.

The Swing is based on author Annette Kolb's autobiographical novel, written in 1934 shortly before she fled Hitler's Germany. It lovingly details a family of non-conformists who live a life as financially pre-

carious as the swing of the title. Herr Lautenschlag (the father) is landscape gardener for the Bavarian Royal Family. His own family occupies the small house opposite the great glass palace of the Botanical Gardens. His French wife is a frail, romantic figure who helps support the family by giving piano lessons to the snobbish royal offspring. The four children are as proud and indomitable as the two adults. The youngest daughter, Mathias, is the Kolb-surrogate who, with her gift of vision and impertinent habit of publicly speaking her mind, becomes the focus for much of the film's impressionistic style.

The Swing is also a filming of the director's own childhood. It describes the danger of being young in that interim between wars, facing an uncertain future. Percy Adlon, now 49, started very late in the cinema. He studied literature and art at the Munich University while attending private acting classes to broaden his understanding of human feeling. Oddly enough, he had always planned a career in directing, but never within the framework of film.

"As a child and teenager I was never really interested in cinema," recalled Adlon pointedly. "It was the same as going to the museum or listening to an opera or play. Then I discovered acting wasn't enough. I started to edit a literature series for German radio and even narrated it. It was through this I discovered television and then film. In a way, it was always combined with my interests in literature—all the images I had in my mind while writing for radio. I finally had to get out of my box."

Already 35, Adlon started with short documentary portraits of important literary and musical personalities. All were shot spontaneously without preparation or script, in true cinema verité fashion. A year later he made his first one-hour portrait of sketch cartoonist Tomi Ungerer. "I made a point never to compare



Left: Gervaise is given a commendation for her lovely singing voice. Middle: Gervaise and Mathias dressed in black for their grandmother's funeral. Bottom: Gervaise and her gentleman friend.

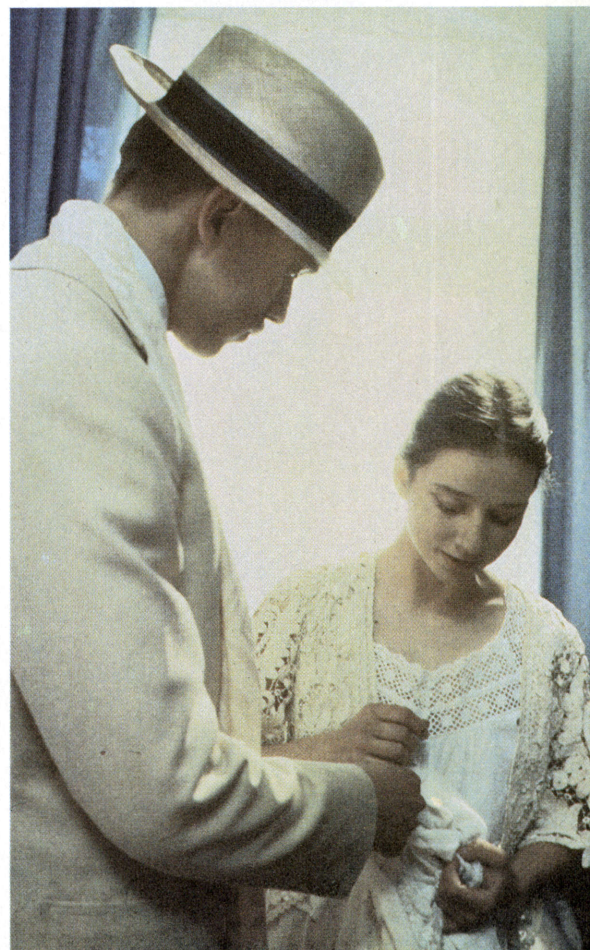
my view with that of other filmmakers," he explained. "I never learned from fictional films—only from reality and other art forms like music."

Following ten years of documentaries and developing his own way of looking at things, Adlon finally took the step toward features. He had just been commissioned to do a 100th anniversary piece on Swiss poet Robert Walzer, and found that he couldn't continue in the old way. He had to write a full screenplay. The finished film became *The Guardian and His Poet* (1979) and was shown at last year's San Francisco film festival to rave reviews.

His next film, *Celeste* (1981), was an adaptation of Celeste Alboret's biography on memoirist Marcel Proust. After that came *Five Last Days* (1982), a probing examination of the White Rose conspiracy in which several university students formed a secret society against Nazis during the Third Reich. His latest effort, *Die Schaukel* (1983, *The Swing*), finally emerged as a culmination of his glimpses into memory and personal recollections of the past.

"Now I try to find a balance between my fiction films and documentaries," added Adlon. "I constantly alternate from one to the other."

Financing a picture in Germany can be as rough as producing one here, especially when dealing with an expensive non-



commercial period piece like *The Swing*. Normal budgets for 80% of Germany's films average between one and two million deutschmarks. Epics like *The Tin Drum*, *Das Boot*, and *Never Ending Story* run as high as 10 million DM, but these are extraordinary commercial ventures and are rarely produced. *The Swing* was considered medium in terms of budget, about twice as big as the typical German art film. The three million DM budget is difficult to compare with American dollars since, for the past three years, the dollar has been so high in Europe. Current exchange rates would only work out to \$1 million, which is quite low even for a German film. About \$2 million would be a more comparable figure to 3 million DM.

Percy Adlon was able to raise one-third of the budget from

various producers and financiers he had met through television. Next he went to state jurors to sponsor the rest of the project. Each German state has money set aside with which to sponsor films. Out of 100 applicants they can only select maybe five or six. So with lots of luck, his previous cinematic record, and a strong story, Adlon's script was chosen for sponsorship.

"I also received the money because the Bavarian state sponsors wanted the film to strongly reflect Bavaria's past, her image," he pointed out. "This was in spite of the poor boxoffice potential they knew this would bring the film."

In the style of contemporaries Werner Herzog, Alexander Kluge, and Reinhard Hauff, Adlon prefers to work with small production crews. But this is sometimes dictated more out of necessity from budgetary constraints than anything else. Said Adlon: "I see no reason why film must be surrounded by so many people doing nothing but standing around and getting in the way."

For his cinematographer, Adlon selected Jurgen Martin, who had photographed several of the director's documentaries, but had no previous experience in features as DP. Early on, Adlon recognized Martin's amazing affinity with lighting, especially when working under low level conditions as the shoestring budgets often dictated.

"He lacks the regimen of working by the book, a thing that professional features require," commented Adlon. "But his lack of experience is more than made up by his technical knowledge and artistic ability. He's almost like a painter with light, with all the objects of a scene as his palette." He's also excellent with moving camera techniques, much of which exist in *The Swing*.

Martin shot exclusively with Eastman high-speed color negative, using an Arriflex BL equipped with super speed lenses set at their widest aperture open-

ings. Although this proved risky for the extensive dollying and close-up photography, it was practically dictated by all the vast interiors he had to light.

"We used natural lighting predominantly," recalled Adlon. "Since most of the film takes place indoors behind curtains, you end up describing the darkness with many low-key light levels. Jurgen used tiny spotlight effects to simulate cracks of sunlight streaming through holes in the curtains."

"This was a time when few people had electric lights. For struggling families like the Lautenschlags it was a world of candles and petroleum. Stanley Kubrick did the same with *Barry Lyndon*. For period dramas such as this, there's almost an automatic historical necessity behind the look."

Adlon elected to use zoom lenses very little. "The zoom is great for flexibility in changing focal lengths when shooting documentaries, but I don't like the effect it gives features. The zoom is unrealistic. I'd rather dolly," he concluded.

Much of the action centers around the Glass Palace since the Lautenschlag family lives next to it. This proved quite a problem for Adlon's crew as the original palace burnt down in 1931. Constructing it in part would have cost them all the money in their budget. So they mixed some technical possibilities and came up with three methods for recreating it throughout the film.

The first method involved the winter wide angle shot of the palace which opens the story. Adlon found an old black and white photo of the original glasshouse, and a painter added the necessary colors to it. This was combined with the live action scene using a simple static matte composite of the two negatives in an optical printer. A later shot combined a high angle of the palace along with guests arriving for the garden exhibition. Unfortunately, poor registration in the printer caused the negatives to

Mathias stares at a
curreal prophetic
vision.



weave independently of one another and gives the latter effect away.

Method two called for a *hintersetze* to be built in a forced perspective outside the window of the Lautenschlag apartment. The word *hintersetze* means “behind set” and is identical to the painted backdrops and props lit behind sets on a soundstage.

One of several eerie sequences in *The Swing* has the family and guests watch an “aurora borealis-like” effect as the setting sun casts a red glow through the monster glass house. Martin put some big 10Ks with red gels behind the *hintersetze* to act as the burning sun. Later in the lab, macro footage of a crystal with a tiny red spot of light behind it was supered over the spectators. This simulated the sun’s rays refracting through the Glass Palace like a prism.

The sequence where Herr Lautenschlag takes his pre-dawn walk outside the palace grounds was photographed in front of a new bank building in Munich. In the early morning light, the large windows were similar to the Glass Palace’s.

Beautiful winter footage of old Munich at dawn also accompanied this sequence. Shots of the Frauenkirche (the distinctive two-domed cathedral), St. Peter’s Church, and Theatinerkirche (the most beautiful baroque church in Munich), portray exactly how the Bavarian capital must have looked in 1889.

According to Adlon, “We used actual locations whenever possible since they were less expensive than shooting in Bavaria Studios. The Lautenschlag apartment, for example, was an empty house. The scenes of old Munich by dawn involved the painful work of going out several mornings with a full crew and hoping for good weather. As it was, we had to go out ten times to get the lovely scenes you see in the finished film.”

When the children raise enough money to see their favorite



actress in a premiere opera, Adlon intercut two of Munich’s famous opera houses together. Scenes taking place in the foyer were filmed in the classic national theater (Bayerische Staatsoper). The splendid rococo designs found in the Cuvilliés-theater served as background for the scenes in the auditorium. Jurgen Martin had to elevate the natural light level slightly on the children and shoot wide open in order to record the highly decorative silver rococo theme.

The restaurant where Herr Lautenschlag and his eldest daughter, Hespera, have tea was filmed in a restored tea house called the Augustinerkeller, located near the Karlsplatz pedestrian zone. The Augustiner served as a typical romantic-styled imitation grotto, the kind which existed during the reign of King Ludwig II. Adlon chose to film it there since *The Swing* is also meant to be a showcase of the real Munich, a celebration of her old ways and culture.

A remarkable crane shot took place in front of the Bayerische statue which watches over

the Oktoberfest Meadow during festival time. Mathias and her friend share a secret hiding place inside the statue’s massive head. At first we’re not certain where they are, until the camera does a long pullback from the children’s faces peeking out through the hollowed eyes of the statue. The camera glides down the statue’s front in one splendid continuous move.

“We used a giant crane made for washing windows on skyscrapers,” Adlon revealed. “It was quite expensive to rent—about 1500DM an hour—but we did it all in one hour so we weren’t overcharged. Inside the head was terribly cramped. Martin couldn’t fit the BL inside so instead he used the older noisy Arriflex. The dialogue all had to be dubbed later. I was positioned underneath Martin holding him up while the lens stuck upward between the two girls. I could only hear their voices and couldn’t see their actions so it was largely a situation of guesswork. Martin used tiny inky-dinks to light up their faces, imitating the sunlight streaming through the statue’s eyes. If we had been able to afford it, a video hook-up to the

Director Percy Adlon sets a crane shot for the arrival sequence at the royal Garden Exhibition.

The Royal Bavarian Botanical gardens exhibition inside the Glass Palace.



camera eyepiece sure would have been nice.”

The highpoint of the film is the moonlit hike taken by the children up the panoramic Tsiginsy Mountains of the Bavarian Alps. Magnificence and danger intermingle as the visuals and music grow ominous, symbolizing the beauty they dreamed of and the danger of being young with an uncertain future. Shots of the full moon illuminating the children’s perilous ascent feature realistic night lighting.

The Lautenschlag family in their apartment with Adlon.



The moon was simply reflected into a large window glass positioned between the children and the camera. A lamp with a Mare Imbrium transparency attached over it served as the reflected image. Through the window the children were filmed climbing up the mountain as the lamp circle of the moon reflected above them. It was very simple to do an effective method of softening and controlling the luminance ratio of the moon to the actors by not having it flare out, often the

case with actual moon photography.

“We were shooting there for over an hour beneath the Zugspitze, Germany’s highest mountain, when suddenly the boy playing Otto cried: ‘The moon! The real moon comes!’ The full moon rose and it turned out to be exactly what we had in our glass, so we re-shot the same sequence. During editing we mixed the two shots together and had to continually look up scene numbers to find out which was the real moon and which the artificial one. The higher snowy sequences we shot beneath the Zugspitze because in summer there was still snow.”

“Set designer Heidi Lüdi and costume designer Renate Gatz did wonders in setting up the feel for that period of German history,” acknowledged Adlon. “Lüdi and her husband did all the previous Wim Wenders’ films and she is considered one of the most important set designers of the new German cinema.

“Gatz is relatively unknown compared to Lüdi. She developed the idea of stretching the clothing fashions over a long period, from old fashioned to progressive. So the Lautenschlag family has very old costumes to describe their bourgeois past and habits. The rich have a more progressive look to show them as modern society impinging on the old ways. Mathias’ dress was very important to the story. The German women were not free under that political climate. The girl would never have worn her brother’s trousers. But this was done in our film to turn the inside to the outside—to portray her as a modern girl and show her talent as a writer and predicator of forthcoming events.”

The music was also important in capturing the correct coloring with compositions indigenous to the locale of the story. Peer Raben, the long-time Fassbinder composer, provided the score. Adlon wanted to use Rossini’s “The Thieving Magpie” as the style of music played in a

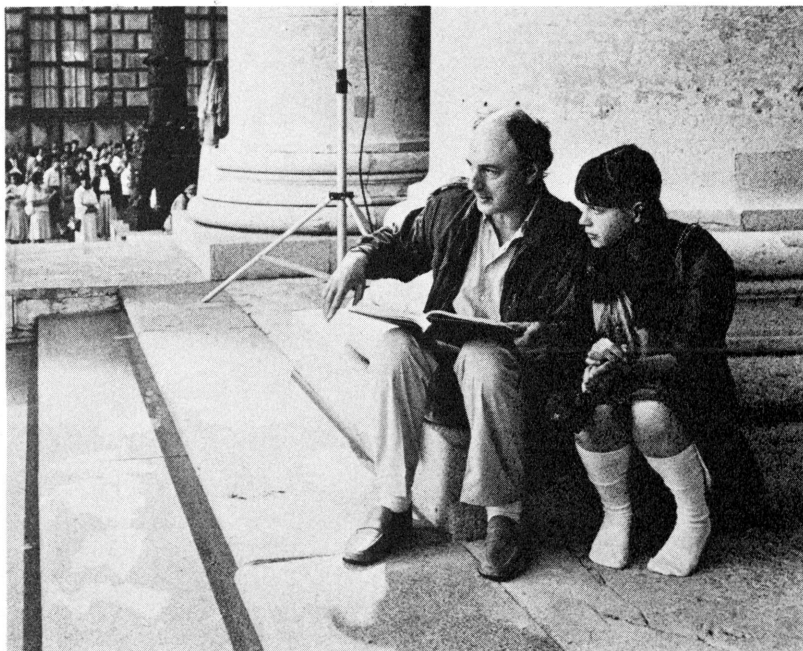
turn-of-the-century "cour concert"—a small chamber orchestra usually heard in a park.

"I particularly like Peer's modern style and knowledge of different motifs for the Fassbinder films," said Adlon. "When I first told him all the music exists already—something you never tell a composer—he nearly had a fit. I only wanted him to make a collage of Strauss' 'The Emperor's Waltz,' Rossini's 'Maggie,' Mozart's Piano Concerto, and something from Mahler. But the last wasn't used.

"During the scene at the foal and filly dance when 'The Emperor's Waltz' changes and Mathias has a surreal impression of a terrible time coming (the dancers metamorphose into pigs), I originally wanted the music to transform to something like a *danse macabre*. There are some pieces in Mahler's symphonies where you can almost imagine that the skeleton is dancing and the drum is imitating the bones clacking together (as in Saint Saëns 'Danse Macabre,' Opus 40). We decided to let Peer develop his own ideas and open up other possibilities for him as a composer. So what you hear in this sequence is Peer Raben, but always with the musical quotations of Strauss, Mahler, and Mozart as basis." (The composer did a cameo for the film, complete with fake beard and baton. Raben is seen conducting the Rossini Overture inside the Glass Palace as Mathias innocently imitates his motions.)

"These four people—Martin, Gatz, Lüdi, and Raben—realized what I had in mind," confessed Adlon, pausing a while to search for the correct translation in English. "It's hard to say whether I succeeded . . . I don't know if it's exactly what I wanted. But this, of course, can be no other's fault but my own. Evidently, it was a high mark to try to reach."

Few directors these days get to go back and change something that they see wrong with their film after extended viewings. But if Adlon could somehow



Adlon discusses a scene with actress Christine Kaufmann

make changes, there are some things he would consider redoing immediately.

"I'd like to have the film seem more modern, whatever that is," he laughed. "I'd like to tear down the wall of the apartment so that the Alpine wind spoken of many times in the story could howl through. Maybe make the furniture more abstract—only three legs under the table, that sort of thing. Then you can imagine more of the dangerous situation they're living in; more of the economic pressures so important to Kolb's book.

"I would also shorten it by 15 minutes," he added. (The film runs 133 minutes.) "My coproducer said we'd have no audience if the film ran too long. After seeing it many times the film is too long. With a clever editor like Suzanne Baron, Schlöndorff's cutter on *The Tin Drum*, I think it'd move much better. Sometimes she really seems to murder a scene, but it's true cinema then. It moves on. *The Swing* has several moments where it's too calm, too lengthy.

"I make films for my age group, even though the widest film market is 10 to 24 years old. I can't change my nerves or heart making something for 20-year-

olds. I'm not a commercial filmmaker. I see a problem in world cinema that there is a lack of films aimed at my age group."

Adlon is currently preparing a documentary on the grandson of Richard Wagner, Wolfgang Wagner. Following this, he wants to make a modern dramatic feature more in the Pinteresque old-theater tradition, using only few actors in very tight situations.

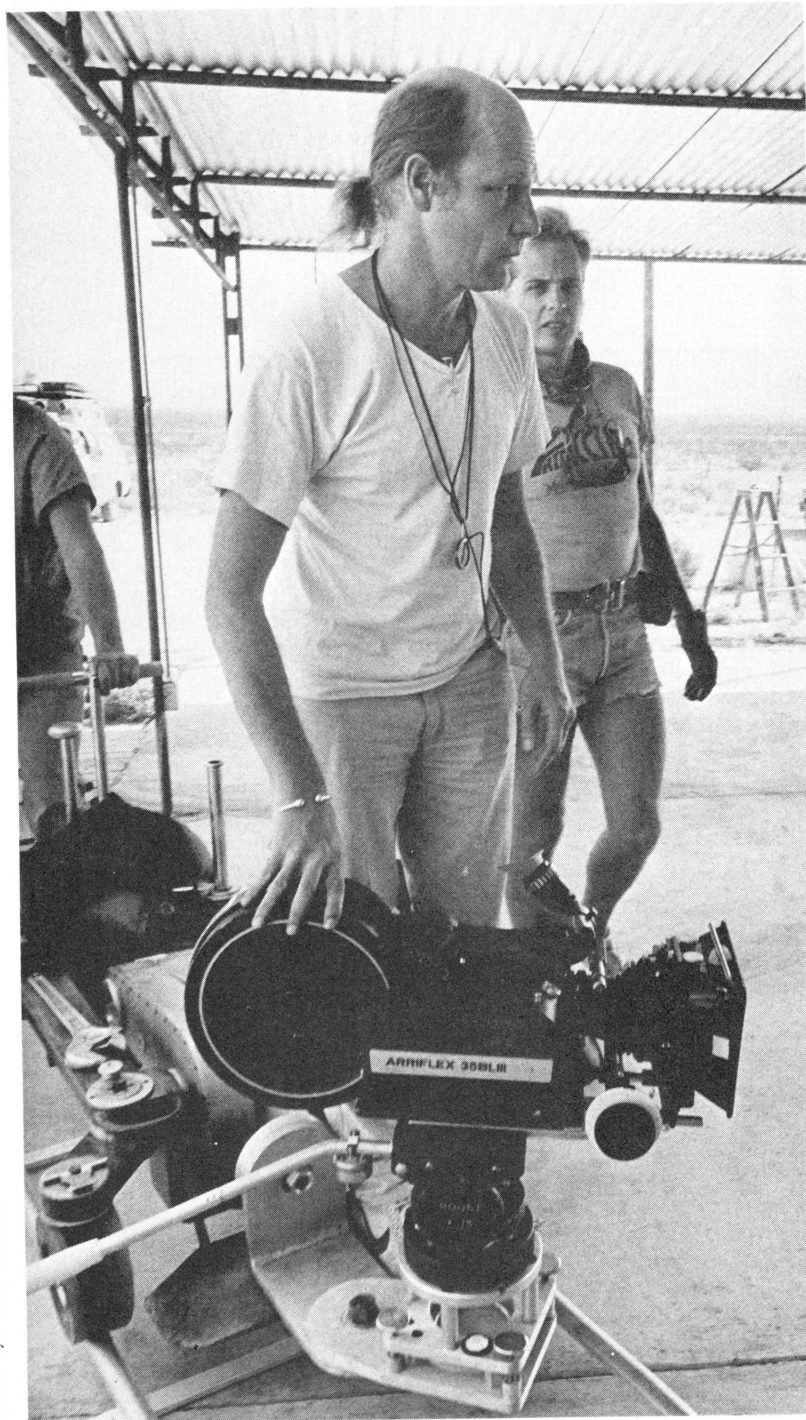
As to historical dramas like *The Swing*, he would never do one again. "I hate them since they imprison you cinematically," he insisted. "Your story becomes a prison.

"For the young German cinema to mature," he predicted, "there are really two different decisions we have to make as filmmakers. One side must remain strict and unspoiled, doing only what's in their mind, making a personal statement, being true to themselves despite the enticements of commercial distribution. The other side involves the ambitious mainstream projects like *Das Boot* and *Never Ending Story*. These films are also important, for when they are successful, art filmmakers benefit as well. But as far as my own sensibilities, they lie predominantly in the first camp."

Paris, Texas

Barbara Scharres

Robby Müller



Photos by Robin Holland

A scruffy man, possibly drunk and looking a lot like a human scarecrow, lurches out of the hard, brilliant light of the desert into a tiny bar in a ramshackle adobe building. As he scrambles desperately for something to drink, finally scooping a handful of shaved ice into his mouth, you notice the extreme, cool blackness of the interior, the thin, bright neon of a beer sign and the savage whiteness pouring through the screen door in the background. This doesn't look like movie-set light; it looks and feels *real*. With great simplicity the scene registers the uncompromising extremes that eyes can see but that movies often hint at with well-modulated facsimiles rather than reproduce. For the viewer it duplicates that moment of changeover from blazing light to darkness where the vision barely functions, where emerging details are singular and eerie, and where spots of brilliance, like the sunlight through the screen door, almost hurt.

The film is *Paris, Texas*, directed by Wim Wenders, in which Travis (Harry Dean Stanton), the thirsty man on the verge of collapse, is about to start a journey to re-discover his past. The startling reality of the light is the work of director of photography Robby Müller, who believes that the magic of the film image depends upon the viewer believing in the reality of the light.

Müller very rarely discusses technical matters. His job is working with light and as far as he's concerned, that process begins and ends in his head. He's not interested in talking at length about cameras or film stocks or lighting instruments, and indeed,

Müller takes a light reading from a scene with Harry Dean Stanton as Travis.

these things seem to matter to him only in the most rudimentary way. He's a stubborn proponent of the idea that *he* does the work and that one way or another the tools will serve his purpose, whatever those tools happen to be, but the simpler the better. He says, "I'm not a technical crazy. It takes a very long time before I get interested in a new camera, because what's the difference - I have to light the scene anyway, I have to use my own brain and my taste and my personality - that doesn't change."

Müller came to the conclusion early in his career that there had to be something more to making an image than having high-tech equipment at your disposal. "So, I brought myself back to looking, really looking and thinking over what it's all about. And when you strip everything down, it really is a lens, film, a camera and one knob - on and off." Looking and thinking are essential to the Müller way of working and are the subjects he returns to again and again in discussing photography.

Paris, Texas was the occasion of a reunion for Müller and Wenders, whose longstanding working relationship in eight films between 1969 and 1977, include *False Movement*, *Kings of the Road* and *The American Friend*, all considered to be landmarks of the New German Cinema. They first met while working on a film for a Munich television station on which Müller was, for the first time, director of photography, and Wenders was assistant director while still a student at the Cinema and Television College in Munich. Müller shot Wenders' exam film, *Summer in the City*, and from that

point onward was his only cameraman until American union difficulties prevented Müller from shooting *Hammett* at Zoetrope Studios in 1978. Once their partnership was disrupted, clashing schedules kept them apart for another five years, while Müller increasingly worked in both Europe and the United States, most notably shooting *The Left-Handed Woman* for Peter Handke, *The Glass Cell* for Hans Geissendorfer, *Class Enemy* for Peter Stein, *Saint Jack* and *They All Laughed* for Peter Bogdanovich, and *Repo Man* for Alex Cox.

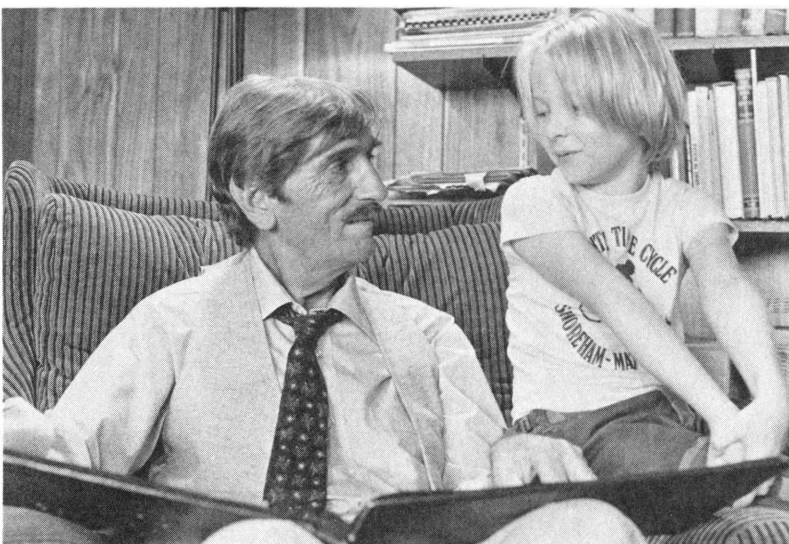
Müller relates that his greatest worry the first day of shooting *Paris, Texas* was that time and working with other people had changed Wenders and himself enough that they could no longer work together with their former ease. After two days of working the tension dissolved and they again found themselves thinking along the same lines. Müller says, "Wim and I seem to have the same opinion or feeling about how something should be shot. We don't have to talk about it very much; mostly not at all."

A harsh blue sky forms a backdrop to the underside view of a sweeping tangle of highway interchange ramps in the light of mid-day. In the foreground, in a rusted pick-up truck, Travis is telling his younger son Hunter (Hunter Carson), from whom he had been separated for four years, of his plan to go to Houston to

Müller is not enamored of high tech equipment.



**Stanton as Travis
with Hunter Carson
as his son Hunter.**



search for the boy's missing mother. As the two talk, reaching a new plateau in their wary relationship, the space of the film frame is carved up by angled concrete that veers off into the distance, giving father and son alike the vulnerable air of children in a landscape made for aliens.

Müller cites his awe, as a European, at the vast strangeness of the western American landscape as a liability that had to be turned to his advantage in shooting *Paris, Texas*. "At first," he says, "you just do a double-

take - what am I doing? This is too big, too beautiful; it is so exotic, so strong." He was concerned that the American uniqueness of the locations in downtown Houston, the Texas desert, or on the astonishing network of highways, could overpower the story, and he and Wenders discussed how to avoid what Müller calls "showing off" with locations while not avoiding the striking images the landscape provided. He says, "What I hate in images is when people find a nice location and they celebrate it too

much. I think it's very bad for the story you're telling, because what are you filming, the story or the location? I hate seeing films where they make typical, picturesque shots so you can feel that they are proud they found the location and are going to show it off whether you want it or not. That's where you should have control over the mechanisms at work." He doesn't want the audience to be visually led into accepting a film as a kind of travelogue of familiar views, so that someone's first reaction might be to poke their neighbor and say, "That's beautiful - have you seen that?"

Müller credits Peter Bogdanovich with teaching him something valuable regarding working with colorful locations when he was shooting *Saint Jack*. He says, "That was also a very exotic background - Singapore, Asia, extreme colors, extreme heat, rain, the extreme clothing of the people in the street. Of course, in that situation you are very proud when you manage to light things well. Peter taught me about throw-aways: 'OK Robby, very nice - throw it away.'" According to Müller, throwing something away means, "Be proud of the lighting but don't celebrate it and turn it into something extra. The moment you start celebrating what you did you stand still, you are not going one step forward. It becomes a mannerism - there is no development anymore."

Müller works at striking that balance between throwing something away in the picturesque sense and keeping the spirit of it. One small example of his handling of the problem was in lighting one of the desert motel room locations for *Paris, Texas*. The almost cata-tonic Travis has been brought there by his brother Walt (Dean Stockwell), who has come to take him back to Los Angeles after being summoned by a doctor from the Texas border town where Travis was found wandering. In this scene, Travis is oblivious of his surroundings and Walt is distinctly out of his element in this

**Nastassia Kinski as
Jane, Travis's
estranged wife.**





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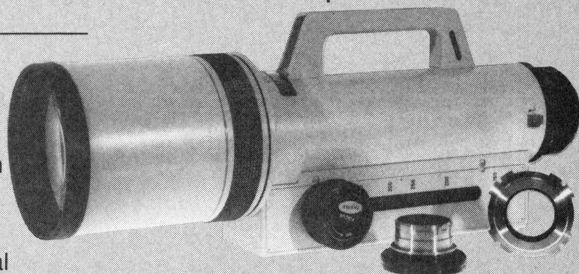
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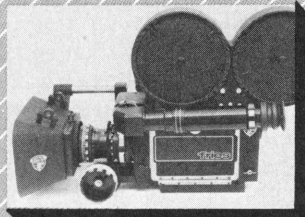


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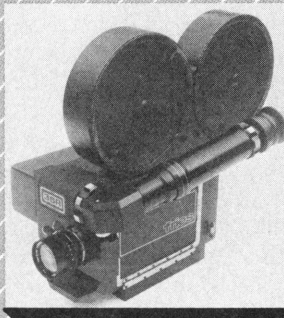
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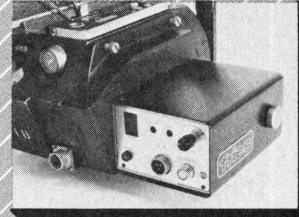
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solitary cabin in the middle of nowhere. The room is the archetypal ancient motel room in its dusty, beat-up ambiance, but has a few unique features in its garish red bedspreads and the signs of the zodiac stenciled on the wall over the beds. Müller shot with the room partially in shadow, with the daylight slanting through a window at the foot of the beds. While the more colorful aspects of the room are fully discernible, they do not overtly come to the viewer's attention.

"Showing off" is what Müller equates with singling out portions of the image in a way that is inconsistent with the story. He says, "What I try to avoid is pointing at something so that I become patronizing to the people who look at the image. I'd rather give the audience the chance to discover it themselves. For me, that's a very important thing – that you still have things to discover for yourself." As an example he mentions the scene in which Travis stumbles into the dark bar. "You don't have to say everything to make yourself clear. I don't feel the need to see his face that well because I've got most of my information anyway. In this specific scene, if I start lighting up the whole bar it loses a lot of its character – it becomes a film set. The location is really the means of telling the story as well, and when I blow away a location with light you lose something substantial."

Another result of Müller's dislike of calling attention to portions of the image in an artificial way is the fact that he and Wenders never work with a zoom lens. He says, "I think that's an easy way and a lazy way and a way that's not well thought out, of lifting out something that's important." As the more difficult alternative, he says, "You can make something important in the way you construct the image."

The locations for *Paris, Texas* were carefully selected by Wenders, who had spent three months traveling around Texas through both cities and rural areas

to find the appropriate settings for the story. Houston, Port Arthur, numerous small towns and points between were finally chosen. Müller emphasizes that finding locations has always been integral to the development of the films he has worked on with Wenders, partly because the films are shot in chronological order and because often, the story undergoes change and development as a result of their interaction with the location. "Everything starts with the finding of the location. We find the locations that fit the story and fit the man or woman who has to move around in that place, so a lot is already given. The same with the light, actually, because you choose a location, whether you're conscious of it or not, because you have a certain light there." Since Müller's preference is always to use natural or available light, he works to preserve and use the light he finds as much as possible without the addition of what he calls "made" light. He says, "I tend to very much respect the light that is already there on the location."

Shooting a film in chronological order is Müller's favorite way of working, but a procedure he has found in practice only in the films of Wenders. He finds that for himself, the advantages far outweigh the disadvantages, "There is more of a development in everything. You can invent new things and fit them in the film and you have no continuity problems. You can change the story halfway through without being bothered by an ending that you might have shot already. You really work from A to Z; you can grow in the film. Everybody goes with the story. When you shoot the end of the story the shooting is finished." The script for *Paris, Texas* was by American playwright Sam Shepard, but by the time shooting was in progress Shepard was working as an actor in *Country*, making his participation in changes more difficult. The story was sometimes changing and evolving from day to day as Wenders worked with writer L.M. "Kit" Carson on the

adaptation, and the ending was not really determined until it was time to shoot it. Müller and Wenders sometimes discussed the logic of various endings as they drove from one location to another. Rather than considering this kind of uncertainty a problem for his work, Müller feels that he is stimulated by the risk. He expresses a preference for jumping right in and shooting a film rather than for being involved in lengthy pre-production work or working with storyboards, because he thinks that the film really happens when it is actually being made.

Müller quotes a line from an unrealized Wenders script to describe their working method for previous films – "The adventure of this film is finding the images for the story." Since they work without a storyboard, it is entirely possible for immediate impressions on the location to play a large role in shaping the story. Shooting in the Southwest, Müller was particularly conscious, as a stranger in unfamiliar surroundings, of trying to wipe away pre-conceptions and let his wonder or worry come to the surface and work for him in approaching an image. He says, "Because I'm not an American and not living in this country, and because I don't even know the country that well, every place I go I'm kind of baffled by what I see. I choose a point of view that somehow translates how I feel or how I felt the first time I saw something. The impression it makes on me flows into this whole decision-making."

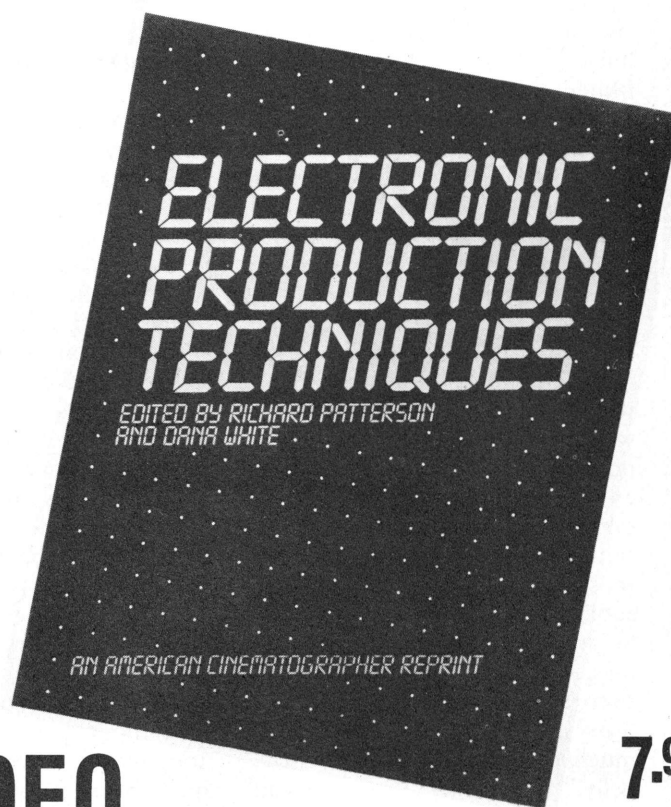
Seeing things through the eyes of an outsider is important to *Paris, Texas*. Travis, it's main character, emerges from an alcoholic haze and a four year-long state of amnesiac wandering to rediscover the look of the world and to find himself no less an outsider in his brother's home in Los Angeles where his seven year-old son Hunter is being brought up by his brother and sister-in-law. He believes his only hope of belonging somewhere is to reunite his violently separated family by taking

the boy and finding Jane (Nastassia Kinski), his wife, a hope that will not be realized in the way he imagines. Müller lets his own acute observation determine this newly-seen world. His faithful perception of light gives the viewer a sense of recognition that heightens the reality of the action. The interior of an air-conditioned car is filled with odd reflections and the light has the strained look of light coming through heavy glass, emphasizing the enclosure. The warm, verging on cool, light of late afternoon reflecting on the varnished surfaces in a small-town barroom depicts that moment when daytime heat dies and evening cool begins. The shadowed illumination of a large room lit by one bare incandescent bulb hanging from the ceiling conveys an intimacy that has a raw edge to it created by the harshness of the light.

Müller is unaffected by pre-conceived taboos, and dares to compose shots that others might categorically avoid. When Travis scans the periphery of downtown Houston with binoculars, he catches for a moment the sight of an American flag snapping in the wind at the top of the steelwork for a new building. This shot might be a cliché under almost any circumstance, yet, like other views in *Paris, Texas* that are so indigenously American they could almost parody themselves, Müller brings it off with cool objectivity. There is the impartial quality of real light in the light he captures on film that lets images speak for themselves in the context of the story. He says, "I don't try to tell my own, separate story with the camera."

Müller's way of working is based on careful observation and thought to arrive at images that are not pat solutions to narrative problems. As an example of how he arrives at a solution he describes the filming of a scene for *The Left-Handed Woman* in which the main character is waiting for a train. "We just sit for a while and observe what it could mean for this woman, what she

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would see in the state of mind she is in. You can film the arrival of a train in a thousand ways, but mostly it is done so that the train suddenly comes into the shot, or you are filming it from far away, but still you are filming a train. We filmed the grass that is pressed down by the air pressure of the train coming into the station before you see the train. When you take the time you find things like that. You don't have to do camera acrobatics to make it impressive. Looking around and observing – it is a more quiet way of working. It's not just knocking off shots." He elaborates on this method with, "When you observe it as work you get the impression that nobody is working. I hang around and look at it for a while and slowly find an angle, then try another one. At a certain moment it satisfies me and it happens." The subjective nature of the decisions he arrives at in finally filming an image makes Müller reluctant to theorize too extensively about how it happens because "very much comes straight out of the belly." He says, "Of course you have your own little theories, your little place in your head while you're doing it, but it's somehow too private to put in words. At a certain moment you come to a solution that is very difficult to theorize about, difficult to defend."

In discussing what is most important to his way of shooting a film Müller recalls that while shooting *The Left-Handed Woman* director Peter Handke said to him, "The images must have power." Müller says, "You can interpret power as making an image that really hits you in the stomach, that is very strong in the movement inside the frame or the movement with the camera, and you have physical power. But, you can also make a frame in which the power doesn't come from the surface." While this kind of image-making requires patience and thought on the part of the cinematographer, it correspondingly demands thoughtful viewing on the part of the audience. He notes,

"Nowadays my kind of power is much less used because it involves some risk. If you don't want to do camera acrobatics to create a powerful image then the other alternative is finding things inside the frame. Very often, on first sight, the image may be boring to the audience because nowadays no image stays on the screen longer than two seconds. It makes consumers out of people and keeps them busy all the time. The eyes never come to rest, and the moment they have to look for themselves, if things are not put on a plate in front of them, they think it's boring. Not everyone, but in general."

Travis sits in a tiny, near-dark cubicle with an expanse of mirrored glass in front of him. There is a shaded desk lamp on a shelf beneath the glass and a plastic sign that says "poolside" above it. He holds a telephone to his ear. Suddenly, the glass becomes a window and a small room behind it is revealed when a young woman enters, flipping a light switch and flooding the room with light. Her space is like a miniature stage set decorated with a piece of nude statuary and some beach toys and plants to simulate a poolside patio. The woman wears a mini-dress approximation of a nurse's uniform. The scene is from Travis' point of view and he sees her clearly. It is not until the woman begins primping in the glass and speaking without making eye contact that the audience, along with Travis, realizes that he is sitting in front of a window of one-way glass; he sees her but she sees only herself in a mirror.

The peep-show location for *Paris, Texas* is the setting for the crucial reunion between Travis and Jane. The end of the road in this film is the painful confrontation between husband and wife who have not seen each other for four years and who will only meet on either side of the peep-show glass, never seeing each other simultaneously. According to Müller, the problems in shooting these scenes were not great once

he achieved the correct light levels to produce the desired effect. Although it had been suggested that he simulate the effect of the one-way glass using plain glass, he says he never considered it – that it was actually easier to use the real thing. When shooting from Travis's point of view it was necessary for Travis to be dimly visible by the light of the small lamp and by the light spilling through the glass from the other room, while simultaneously "Nurse Bibbs" and eventually Jane, had to be brightly lit in the manner of the themes in the various peep-show rooms. In the final scene between Travis and Jane, shots from Jane's point of view will show a spot of lamplight burning through the mirror until Jane turns off her ceiling light in order to try to see Travis's face. At that point the mirror effect reverses and she sees him illuminated by the lamp while he sees his own reflection. Müller says, "It demanded certain light levels – I had to take great care that I didn't overdo it and go wrong there. It's the subtleties that are the most difficult things – it's like a lot of people can play the piano but what makes you a good player is the graduation in volume. It's not finding the notes in the right order, it's how you touch them."

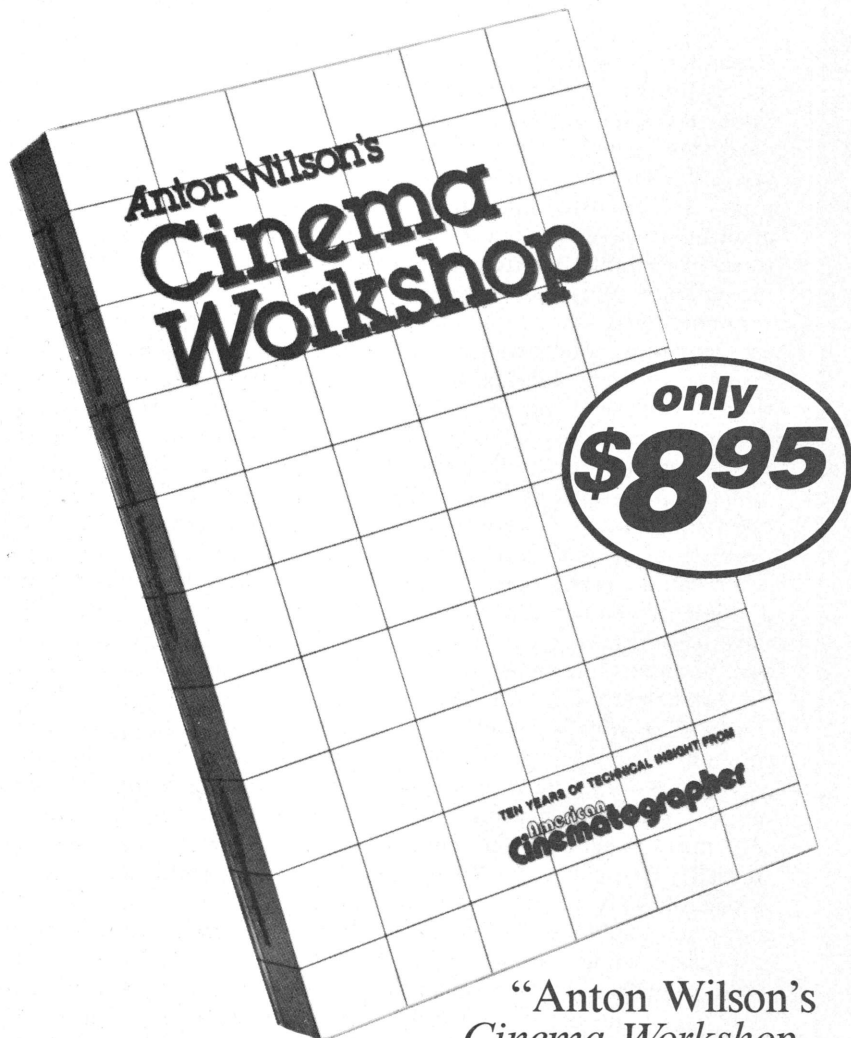
A real complication in shooting these scenes was the fact that they had to be shot quickly and there was no room for trial and error in the lighting. He says, "There was not enough time, not enough money and we only had enough negative to complete the scene and no money to buy more. The last shot was also our last roll." The last scene between Travis and Jane ends with an arduous and emotional eight-minute single-take monologue by Nastassia Kinski. There was one 1000-foot roll of negative left and no possibility of shooting again at that location. Kinski came through without a flaw, and Müller relates that they had to time the shooting with a period when the juke box at the raucous bar next door would be off for ten minutes straight, pre-

dicted by a crew member stationed there with a walkie-talkie.

On the subject of the technology of his profession Müller takes a stand that may be considered radical in its rejection of mechanical solutions to problems. He says, "When a woman is supposed to be beautiful in a scene very often the system is to put in a filter to soften up the features a bit so she looks younger and more beautiful and so on. That would be my last resort. I always try to solve a problem with light first, just light. "After *Paris, Texas* won the Palme D'Or at the 1984 Cannes Film Festival in its world premiere, Müller found that he was increasingly approached by critics and interviewers who wanted an inside story on what they assumed to be the technology involved in shooting the film.

"In *Paris, Texas* they wanted a hold on how it was done and didn't even look too closely at the image. They started asking me right away what filters were used. For many interviewers it was a bit frustrating talking to me because no interesting technical details came out of it. I finally said to a man, 'I'll make a bet - the first person who can name more than one filter I used gets a thousand dollars.' Because I *didn't*. People assume images come from tricks that can be duplicated. By duplicating the technology you get the same images. 'Just tell me how you did it . . .' It was just working with light, that's all, no filters. It's not that I'm against it in principle, but in this special film and in lots that I did I found other solutions. I feel that I betray my own profession when I solve problems with what I think are cheap tricks. You can filter or do tricks that blind people - say the filter is so strong you don't need to light very precisely anymore."

Müller's preference for basic equipment and for a philosophical and intellectual approach to work problems leads to his eschewing many recent developments in equipment, particularly the use of a video monitor in conjunction with the camera. "When



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I get a camera from a camera rental the first thing I do is let them take off all the toys." Having tried this system on one film he says, "I'm sure it's sometimes very useful, but I mostly didn't need it at all and it was only a burden – all those extra cables restricting your movements. What disturbed me very much was that people on the set were not concentrating anymore. They were standing behind the monitor as if it were happening there and not on the set. The whole moment of truth was gone. You could check everything, re-do everything and you have endless discussions. There is a moment when you do a shot, there must be a moment, when you say, 'OK, we have it,' and maybe you're not so sure about it, but sometimes you must put a period there and go on. The video always delayed that moment."

Working most effectively and enjoyably on a film for Müller also means operating the camera himself. "Doing my own operating is 50% of the fun of my whole job, and when I light a scene I think of a special framing and movement." Having worked with an operator only once in his life, he concluded that that way of working was not for him due to the inevitable difficulty in achieving the movement and framing he designs for a scene through another person who may conceive of those things quite differently. "Moreover," he adds, "I don't like to have too many people around the camera. I can concentrate better when there aren't too many people involved in this big, black machine. I think it's better for the actors too. The whole communication is easier with fewer people to deal with – you have an ideal triangle from director, actor, cameraman, back to director." Following this line of thinking, Müller never works with a second unit, feeling that it is a catastrophe for one cameraman to have to imitate another's work. He would rather work longer and shoot the entire film himself, choosing his films carefully so that this is possible.

When Robby Müller was finishing secondary school in his native Holland he thought he would probably go on to the university and study mathematics and physics. Since he began to have sneaking doubts about the mathematics and physics part of the plan, he chose to do his two years of compulsory army service first. With time to think it over he was increasingly influenced by the fact that none of his friends, all musicians and painters, were going to the university. The catalyst for his new career direction came when he met someone who had attended the Film Academy in Amsterdam and realized that this attracted him. The Film Academy only owned two cameras, one 16mm Kodak Special and a 35mm that barely worked, but despite this dearth of equipment Müller specialized in camera because he didn't think of himself as a writer. Then, for five years he worked as assistant to Dutch director of photography Gerald Vandenberg, a cameraman who also had a strong preference for the use of natural light.

Müller says that initially his consistent use of natural and available light was an accident of circumstances. Holland had no real film industry at that time and the few films made there were very low-budget. Often a production could barely afford the rental of a camera let alone have enough money left over for lighting equipment. He says, "I used to work with that light and play with it and wait for certain light because all the things you could do in a big production were not possible. You couldn't make the light you needed so you had to choose locations because of the light."

Categories and systems of working, when applied to lighting, are things that Müller feels inhibit people unnecessarily and sometimes prevent creative solutions to problems. He relates his first experience in dealing with studio-trained technicians. "They said, 'Where do you want this spot?' and I said, 'There.' So this is going

to be your key light?' I really upset them by saying, 'What's a key light?' And they said, 'Oh, you mean the other one is the key light?' I said, 'Call it what you like.' For me it's not a standardized thing. When you need a key light it means that you need another light to complete the system, and I never thought about that. I just needed the light that I needed. To give it a name made no sense to me." Müller finds that one of the advantages of working on independent films is that the technicians are younger, more curious, less formed by rigid ideas of how things should be done and more vitally interested in their work. He considers it a good sign when the gaffer comes to the dailies, and he encourages discussions about lighting among the people he works with.

Müller rejects the idea of "style" as a certain pre-determined look that a cameraman applies to a film, and finds that it's a misconception on the part of some directors that the director of photography is there to provide an attractive wrapping for a film. He reveals that he once upset a director by saying, "Actually, you are responsible for how the film looks," because the director obviously hadn't thought of it that way.

On choosing directors he says, "In your career I think you end up working with very special directors. They fit you and you fit the director. More and more you single out who you would like to work with, and when it works out you stay together." He believes that cameramen should make their choices carefully. "As a cameraman you are a kind of sailor. If you really figure out how often you are at home and how often you are working it often turns out that seven months of the year, that's more than half the year, you are doing your job. It makes perfect sense to me that for those seven months to do something that makes sense for your life. This is the first and very last time you are on this planet." ■

Special Effects

HOMER: Hybrid Optical Montage Electronically Reproduced

HOMER stands for "hybrid optical montage electronically reproduced," an awkward name for an awkward-looking, Rube-Goldberg setup of cameras and computers combining the techniques of automated sound recording, computerized optical printing, video assist and electronic graphics. HOMER creates optical special effects and animation developed by the Hollywood production team of Peter and Coco Conn.

HOMER effects have been used for the title of the feature film thriller *Double Exposure* and animated openings for syndicated TV shows *Hollywood Heartbeat* and *Rock N' America*. The Conns' company, HOMER & Associates, has in three years developed a reputation for getting a lot of visual excitement out of limited resources. Opening titles for this season's *The Bill Cosby Show*, requested little more than a month before air date, were assembled from publicity photographs. They've also animated entire commercials for record albums using only album cover art and the capabilities of their visual mixing system.

Peter and Coco Conn have been involved in creating promotional films and videos for music acts since animating Michael Jackson's trademark white socks and black shoes for the clip, "Blame It On the Boogie," in 1978. Their techniques can be cinematically simple: tossing armloads of roses into the air while shooting high-speed film for slow-motion to match the ballad pacing of Stevie Wonder's "Secret Life of Plants." Or elaborate and expensive: building a neon room and auditioning 60 Japanese and Korean martial arts experts for the kung fu fantasy of "Sequencer," a clip for jazz-fusion guitarist Al Dimeola.

Their clips are a dense fruitcake of images—bright colored nuggets and textures that seem three-dimensional on the screen.



Frame enlargements of images created with the help of Homer.

"One of the most important things a promotional clip needs is repeatability," stated Coco Conn, who is producer of most music projects. "If a lot of things are going on in the clip, it can be seen and enjoyed more than once, there's always something new to discover."

What pops on the screen may be slide, still, live-action footage, even graphics from the terminal of the Conn's home computer, all combined on a 24-track visual mixing system of custom hardware and custom computer software—a system that takes the flexibility of real-time editing found in video and applies it to optical effects. HOMER is a true hybrid of computers, video and film, yet as responsive to human touch as a harp.

Image-mixing on HOMER is a two step process. Planning a sequence takes place in the main control room on a custom "preview" console designed and hand-wired by the Conns.



The console resembles a 24-track audio mixing board, but instead of mixing levels of sound, it mixes levels of light. Twenty-four different visual inputs can be mixed simultaneously. Behind the console, beyond a glass partition, sit 16 slide projectors, 16mm film projectors and a video projector,



One of over 2,000 slides processed by Homer for "Body Music."

each focused and registered on a screen about ten feet in front of the console in the control room.

For each of the visual feeds there is a touch-sensitive conductive strip etched flush on the console surface, which controls a digital dimmer which varies the light output on each projector. The operator can "play" the console by running his hands up or down each conductive strip, allowing any or all of the 24 projected sources to appear on the screen before him. The relative illumination of each projected image is logged automatically by a Z-80 microprocessor beneath each touch strip. These feed into another Z-80, called the "host," which serves as master control.

Peter Conn says the console operation is "very similar" to automated audio mixing although the computer programming behind it is somewhat more sophisticated.

"The red LED lights above each channel indicate the brightness levels," he explained. "It's possible to match levels on various tracks this way, or the levels can be pre-programmed like in automated sound recording. The software also gives us different 'modes' we can use. For example, I can bring an input up to a certain level and keep it there while I'm doing something else. In

another mode, I can automatically add or subtract relative values of various tracks to follow the adjustments I'm making to any single track."

The elaborate computer program, which was written in the FORTH language by independent consultant Paul Rother, controls the forward and reverse running of each projector and stores each combination of inputs and their intensity. Speed of transition—a cut or dissolve between the inputs—is controlled manually by a joystick but the rate is also stored digitally in the console memory. This memory is accessed by a computer keyboard which sits beside the console.

Coco Conn compares the computerized assembly and storage of animation sequences to the off-line capabilities of video editing. Each sequence can be previewed, as the program automatically rewinds each projector, she points out, and each can be changed through an update command. "One of our pieces for 'Body Music' had 99 updates," she said. "Using the keyboard, we can call up any section and adjust the speeds or drop in new images."

Even with all the hardware, visualization remains a human process, a synthesis of hand and eye. "Most of the mixing is done in real time, to music," Coco Conn stated. "With the computer doing all of the math, you have time to concentrate on the flow of images."

While HOMER integrates film and video as well as slides, most of the projects have involved animation of still images. A wide variety of visual effects provide a motion look for stills. Popular is a high-speed cubist effect, where images are repeated but reframed to advance away or towards the viewer,

sometimes rotating or twirling in the picture plane as well. This stepped-frame effect was used for the opening title of *The Bill Cosby Show*, and for "Body Music," a video disk program commissioned by Picture Music International in which erotic imagery was worked out of more than 7,000 slides.

Other HOMER effects include a soft, translucent layering of moving images that seem romantically filled with light, and the quick pop-on montages that liven the pop clip for Steve Miller's song "Abracadabra."

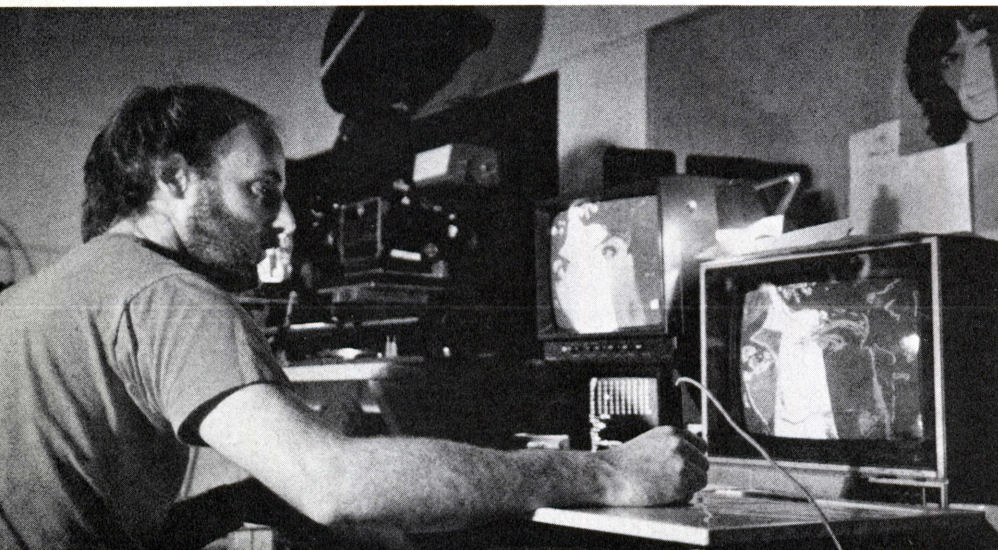
Said Peter Conn, "We've found we get a lot of flexibility with slides for animation because you can even work out sequences on a light box, scramble them and twist them and flip them before feeding them into the preview projectors." The slides they use are only half the size of normal 35mm slides, and are shot at 35mm full aperture on a customized Fries Mitchell 35mm camera which has been adapted for single-frame exposure. The slide mounts are also custom-made.

"The advantage of slides over a linear medium like film," Conn stated, "is that in film, you may be able to cut a sequence to fit a musical phrase, but it cannot be extended. With slides, I can mix and make transitions at any speed using the joystick, and I don't have to worry about timing when I'm building a visual effect."

"When I'm listening to the audio track at the console, I can set the speed of the sequence so the animation moves smoothly and to the beat of the music. If I've put in too many frames, I can delete them; if I haven't put in enough I can add frames or just run the sequence a little slower. And slides are a valid method of transporting the film stills we use from the off-line room to the on-line process."

The second half of HOMER is a combination optical printer and frame control animation system. The heart of the system is the Fries 35R, a rebuilt 35mm Mitchell camera adapted for single-frame and effects work as well as high-speed photography. Other elements include a motorized chassis for single-frame shooting and a Digital Graphics CAT-800 digital video frame store, which is used for posterizing, digitizing, or roto-scoping images lensed by the Fries camera through its video

Peter Conn working at Homer's computer paint station which is tied to a computerized optical printer.



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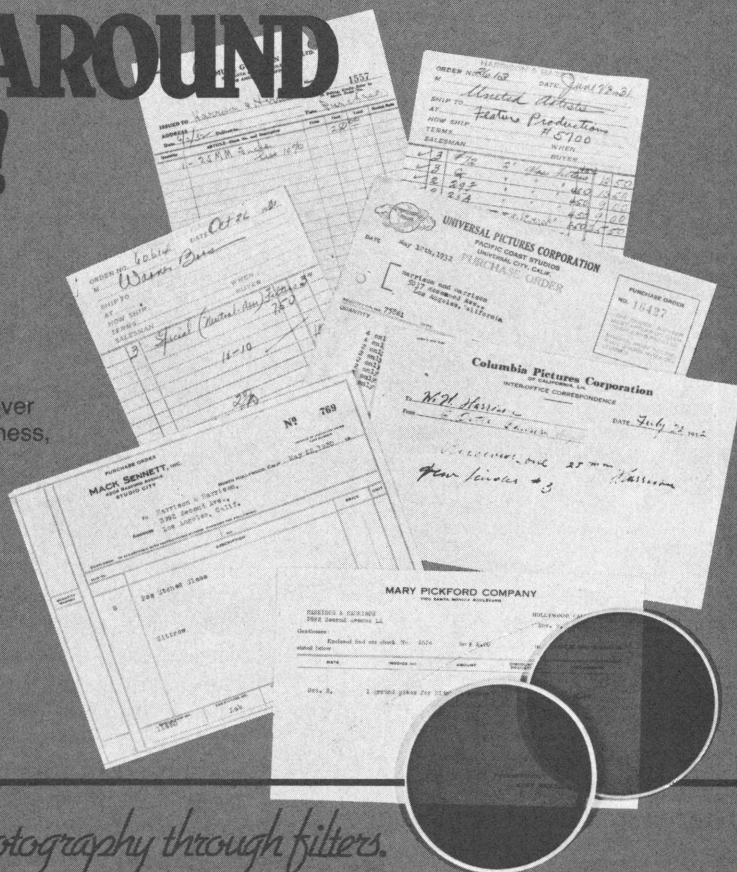
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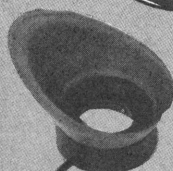
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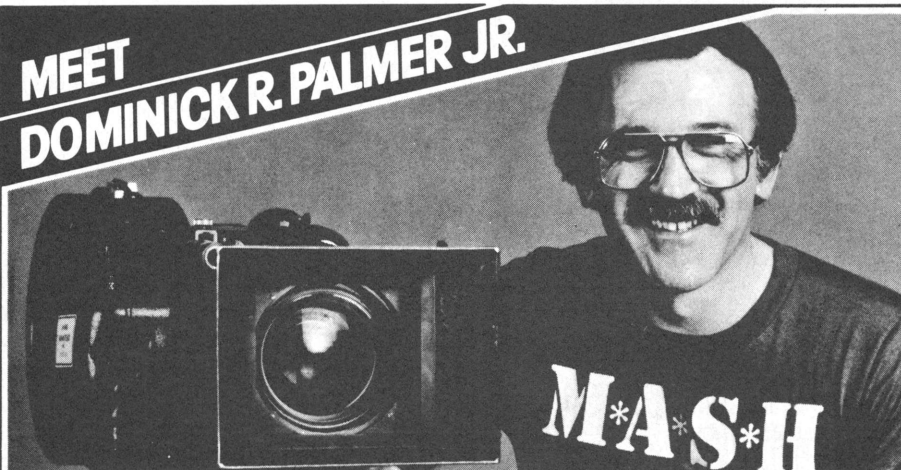
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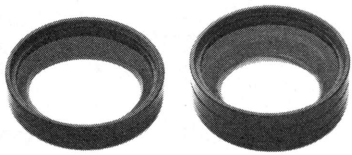
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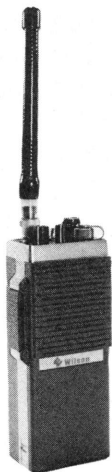


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When the Conns have completed the visualization process in the preview suite, they take the slides across the hall to the printer room along with a floppy disk which contains the data for exposure, timing and sequencing completed at the preview console. A keyboard controlled microcomputer uses this information to operate the camera chassis.

On the keyboard, an entire series of camera moves on eight different axes can be set up and then executed with just one keystroke. "I can push one button and it will move the camera for a zoom, move the lens, turn the slide, wrap the focus, shoot the slide, advance the camera, and do the same thing all over again until the whole sequence resembles what was originally designed," explained Coco Conn. Demonstrating a stepped-frame sequence, the recording camera moves along its track with a high-pitched tootling sound, stopping every few seconds to expose a single frame of 35mm internegative stock. In this way an entire film segment can be created from one slide. Actual camera movement, length of zoom, and exposure level is derived automatically from the floppy disk program. Multiple passes create the multi-layered effects. Mastering is always done on high-quality internegative stocks, using a Nikor printing lens, and a 16/35 Ace printer head.

The keyboard is tied into the CAT-800 framestore, as is the video assist. The framestore will record and play single frames of video, so the Conns used it to preview all recording camera moves in sequence before pressing the button to begin a series of exposures. "To have not only the video assist but the digital memory saves time," said Peter Conn. "I can precisely match one slide image to another by entering one in the memory and then matching the second with it."

The video input is also used for video graphics effects. "I can take the video assist input and feed that directly into the frame store to get a digitized image of whatever the 35mm camera is seeing," he added.

The CAT is also able to colorize the stored video frames "in any of 16 million colors," according to Peter Conn. He has transferred the color con-

trols from the keyboard to a homebuilt box which has fader bars to manipulate hue and intensity "because it's more ergonomic."

The video output of the CAT-800 is directed into a black-and-white TV monitor. The Conns then record the monitor's image on film, making three exposures per frame, one each for the red, green, and blue elements of a color TV signal. The resulting film footage, with its video effects, can be re-mixed on the HOMER console and optically printed for a dense, textured look incorporating live action and animation.

A much-used accessory to the CAT is a graphics tablet for rotoscoping, for the creation of traveling mattes, and for the freehand drawing of figures to be animated.

The CAT's graphic tablet was used to create a traveling matte on a test for the Tom Waits promotional clip for the song, "In The Neighborhood." A foreground roller-skater in black and white moves against a background crowd of strollers in color and is meant to resemble a hand-tinted photograph on Waits' record album cover. Frame-by-frame rotoscoping done with the tablet smoothly separates the characters.

Paul Rother wrote most of the controlling software for the CAT in FORTH, although the device has some color manipulation programming included. "Sometimes Digital Graphics calls us up and asks how we've done certain effects," said Coco Conn.

The Conn's promotional film for the George Clinton song, "Atomic Dog," illustrates how video and film techniques combine animation with live action. For the client, who wanted "a look that combined Busby Berkley, Betty Boop and *Tron*," Coco produced and Peter directed a concept clip with a video game motif.

"Line drawings of a cartoon dog and cat were created by animator Jonathan Leach," Coco Conn explained. Each of the cel drawings was placed on the graphics tablet of the CAT-800 and traced with an electronic stylus. Each drawing was colored and then entered into the CAT's framestore. Replay of the drawings, frame by frame, animates the figures.

Multipass printing on the HOMER unit combined this foreground

footage with a background made up of slides (doors opening). Sandwiched between the two is live action footage of dancers in dog and cat costumes, shot with 16mm high-speed film (Kodak 7294) at 30 frames a second. The result is busy on-screen action in many levels, kinetically and visually well-suited to Clinton's brand of electronic funk rhythms.

Another example of this dense multipass technique is a promotional film for "Abracadabra," a song by Steve Miller. This promotional clip is based on live action 16mm footage of three sultry models and a harlequin, with segments of color digitization and slide manipulation of film frames. Rotoscoping was also used. The performer, Steve Miller, appears only in still photographs, which were reshot as slides and integrated with stepped-frame effects. "We also used a lot of reverse-action to help with the 'magic' you see," explained Coco Conn.

The pair have also integrated graphics done on home computers into the HOMER system. For "Sequencer," animation was created on an Atari personal computer. They have also found that Apple's Macintosh microcomputer, originally purchased for bookkeeping use, contains an excellent drawing program for their purposes.

Said Coco, "We used it a lot on our last few jobs to create graphics, for example, the Capitol Records logo which was needed as part of a sales film presentation. The Macintosh has a graphics tablet like the CAT does, but with a function called 'Fat Bits,' which actually enlarges a portion of the drawing area so you can go into very fine detail. It also generates squares and circles and other shapes, and we can use it as a character generator for making titles."

To input this material, Peter Conn explained, "all I do is aim a high-resolution, 800-line video camera at the terminal screen. It looks just great." When the Macintosh isn't being used as an artistic tool, it serves as an accounting computer for the company; its basic word-processing program is employed for business letters and press releases.

Anything created in the printer room may be introduced into the visualization process for further manip-

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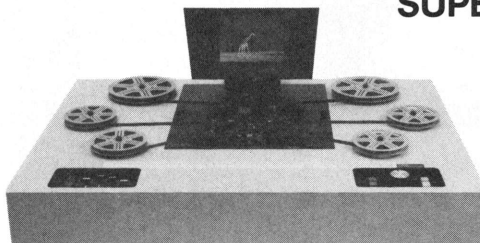
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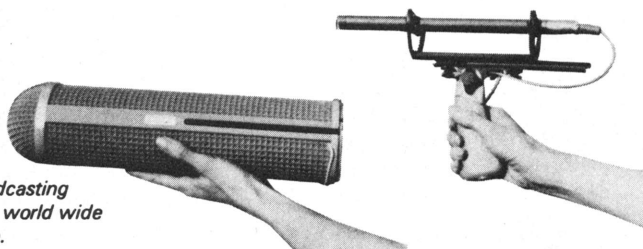
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ulation. Entry and re-entry of images achieves a distinct look that can't be duplicated by off-the-shelf video effects equipment.

"People are trying all different ways to create filmstyle animation on videotape, with Quantel Paintboxes and very expensive computer graphics equipment, and no one's found the perfect solution," Peter Conn said. "In the interim, what we've got here may not be the most direct approach, but it gives us plenty of control and the film advantages of multiple pass and an excellent, sharp film image."

HOMER's bag of tricks can be closely studied on their recently released videodisk program, "Body Music."

They were asked to create a program of some 7,000 slides—nude stills of six British models photographed by Brian Aris. Working with a musical theme for each model, the task was to create something "tasteful," according to Coco Conn, "something that women as well as men would like to watch, and which would hold up under multiple plays." The six segments have a dreamlike quality with their own specific effects: "Sheree," for example, has the multi-planed cubist look of stepped frames, while "Jilly" has softly colored posterization. "Body Music" took three years to complete.

The final product of a HOMER job may be 35mm film or video. If video, the Conns often make film-to-tape transfers of their internegative masters and do the final assembly on tape. "We don't always optically print certain effects that can be done easier on video," Coco pointed out.

Recently, a U-matic video editing system was added to the visualization room, with a small Echolab switcher and Datatron video editor. For smaller projects, Peter Conn is experimenting with other ways to interface the video equipment as an input and output for the HOMER console.

"On one of our last industrial trials we didn't have time to finish on film," he said. "So we converged all the elements on the preview room screen, which is a high-brightness screen, and shot right off the screen with a rented Ikegami video camera. We recorded the program directly on 3/4-inch videotape in real time."

Editing

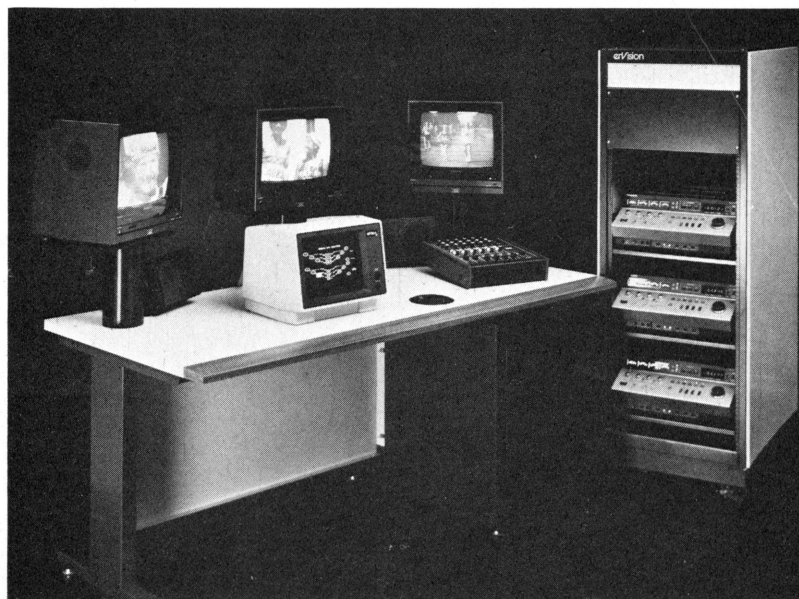
EnVision: Editing at the Touch of a Finger

"The basic objective that we had was to eliminate the words 'film' and 'video' from the word 'editor,'" Bruce Rady said as he described the EnVision system, a unique off-line editing system for both film and video tape, that was formally introduced this fall at the national SMPTE meeting in New York City.

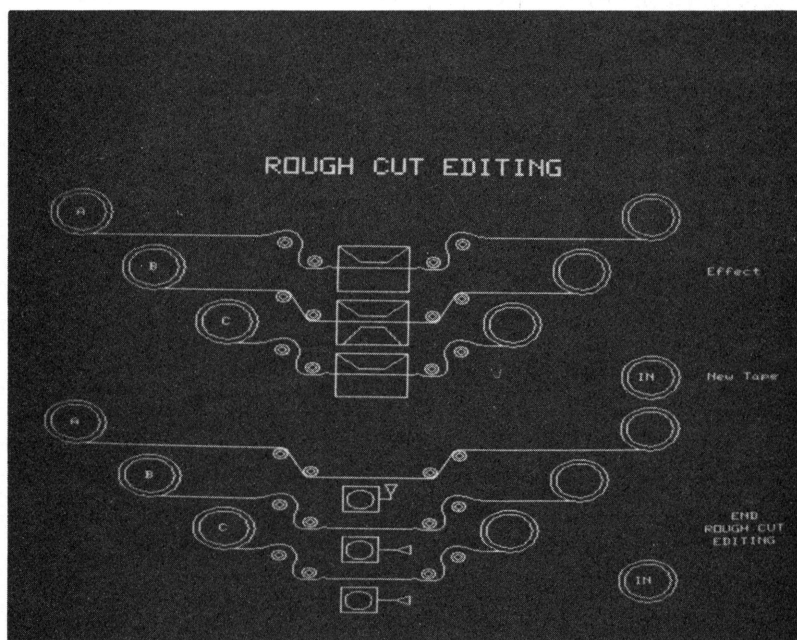
"There have always been two separate systems," said Rady. "We took the approach of asking 'what is film?' and 'what is tape?' ". What is the basic editing process that they both go through and how can we handle both types of people and keep the basic editing process intact? We asked, with all of the advantages of videotape; the instant access, the low cost and so on—why aren't more people using it to edit film? We came up with a basic list of objections that people have to videotape and started a design process that was targeted to overcoming each of those objections."

In 1980 a group of designers and engineers at Bell & Howell began a project to apply Bell & Howell's expertise in video and computer technology to improve the productivity of film editing. The idea was sidetracked by the many changes at that company including the leveraged buyout of Bell & Howell Professional Products Division by its management. Now known as BHP, Inc., the firm has merged with Rady's company and become the manufacturer of the EnVision system. Rady has had the EnVision system under development since 1980 with the assistance and later participation of Jack Behrend, president of Behrend's Inc., the equipment rental firm. As an experienced producer, director and editor of industrial films he was able to formulate the specifications for the EnVision system.

The most attractive feature of the system is its ease of use. The basic control is a touch screen that allows the editor to interlock any tape deck with



The EnVision system is modeled after a flatbed film editing table and the screen display for the controller is a representation of a 12 plate flatbed.

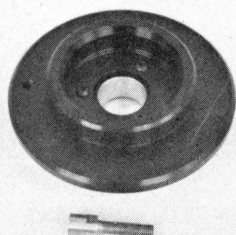


the speed control knob, or enter a scene into the edit list with a stroke of the finger. A keyboard can be used, if the editor wants to make notes on the edited frame. Otherwise all cuts; in, outs,

or trims, are generated with the touch screen (including sound!) This deceptively simple process is the result of EnVision's unique software.

EnVision is an off-line video

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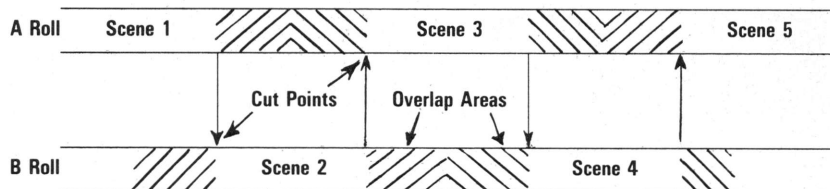
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tape system. Original material, either film or video tape, is transferred to ¾" cassettes to use as an editing work print. If final release is to be on film, a special leader is spliced to the head of each camera roll one frame before the first readable edge number. The edge number is written on the cassette box. If several rolls are transferred to a single cassette, the special leader must still be spliced to the head of each camera roll. The leader is a consecutive frame count, from 1 to 100.

The editor starts by scanning the numbers on the EnVision monitor. Stop on any number and then advance, one frame at a time. The first number might be 57, then 58, 59, 60, 60. This would mean that the second 60 is a phantom frame: in transferring from film at 24fps to video tape at 30fps, 6 frames per second must be created. This is done on a standard telecine by using a 3/2 pulldown—every 4th frame appears twice. An instruction on the touch screen asks the editor to touch the screen when the phantom frame is showing on the monitor. This tells the computer that the frame indicated, and every 5th frame thereafter on that roll, is a phantom frame. Now whenever a cut is made at any time on a frame that is in memory as a phantom frame, the computer automatically retards the image one frame. Thus every frame in the edit decision list is a real frame and the negative cutter will be able to match film to the number.

The EnVision leader is spliced one frame before the first edge number; after entering the phantom frame, the tape is advanced to the first frame of picture. A number pad comes up on the touch screen and the first edge number is entered, as well as designating 16/35, numbers ascending or descending, and whether the original stock is Kodak or Fuji. The EnVision software can thus convert time code into edge numbers so that the final edit decision list can be printed out in the form of a conforming log—with plus frames indicated.

The graphic on the touch screen resembles a flat bed editing machine: a twelve plate with three picture heads and three sound heads. To roll the picture on A deck, touch gate A and turn the speed control. Find the slate and slow down, crawl back and forth to the "clap" frame, and touch the gate, taking it out of interlock. The picture will remain on the monitor, the tape deck in pause. Touch sound gate C and roll sound to the slate I.D., stop on the clap and touch the picture gate A. Picture and sound are now in sync. Advance to the end of the scene and touch "out", both picture and sound. Go to the next scene and repeat the process. At the end of the roll, touch assemble and take a coffee break. In just a little longer than real time, picture and sound will be re-recorded onto one cassette and will stay in sync forever.

The next step is to pull takes in approximate order, what we call rough cut. Cut points are stored in memory; we are simply creating an edit decision list. After the rough cut, another assemble. Assemble can also be done while making the rough cut: on a short job such as a commercial this might save time.

The assemble function can be done in two ways: for viewing only, or in preparation for fine cut. A viewing only assemble is on one cassette, standard format. An assemble for fine cut is assigned to A and B cassettes, with scenes alternating between them. When a cut point is reached indicating a switch from A to B, scene A keeps recording while the new scene is put down on B. The cut point between scenes 1 and 3 on roll A is half way through scene 2 on roll B. In this way all head and tail trims are kept intact—no more searching for trims, ever.

If a sequence needs a shot that is new, not on the A or B rolls at all, there is still the C deck to use as a scratchpad. Anything can be put in or taken out at any time and the sequence screened in real time with no rerecording. At break time or at the end of a

session do another assemble for a clean start and fresh C deck. When the visuals with sync sound feel right, use the C deck to lay in music, sound effects, and off screen narration. Music is easy to cut on EnVision—that was one of the major design criteria from the beginning. Cut out just after the beat but before the strings come in, preview the cut to make sure the beat is there and the strings are not, and cut in four bars later after the beat and before the horns come in. Preview the cut to see that it works and see how the "new" music fits the picture sequence.

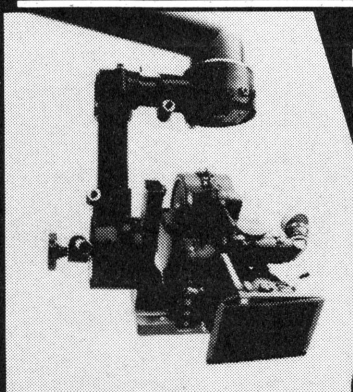
The special effects model incorporates two time base correctors as well as a switcher provides 1-192 frame fades, dissolves and wipes. Switching functions appear on the touch screen and all effects can be previewed before being recorded. End points of special effects are indicated and then the computer takes over, adjusting the fading speed to match the length of the effect. For film editors this will eliminate the problem of indicating a dissolve and then learning from the conformer that not enough footage is available to make it.

After fine cut a number of things from the computer memory: Assemble on one cassette, for viewing only. Print out an audio edit list in time code, for mix preparation. Assemble on single cassette with burned-in footage count, for viewing in the mix. Create a floppy disk to control an on line auto assembly.

The underlying computer hardware is a dedicated system that is comprised of a series of 8051 chips and one central 8086 microprocessor using a standard operating system, CPM-86. This hardware controls the video tape units and interfaces while the software records film edge numbers and time-code numbers for use in the editing and conforming of the final product.

The use of standard components and existing technology is deliberate. The basic thrust of EnVision is to use the familiar; to make the machine accessible to any film or video tape editor working on currently available flatbed equipment. The amount of re-training for a film editor, according to Behrend, will be similar to that needed if the user were switching from one standard flatbed to another. However, BHP will also offer training seminars on basic editing techniques.

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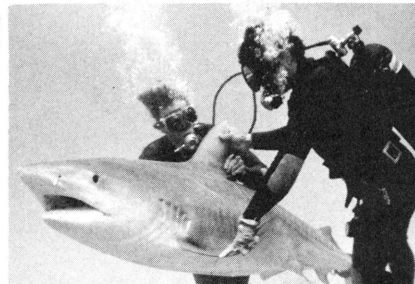
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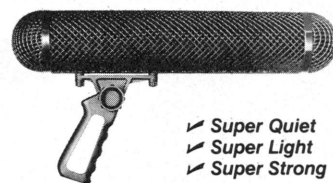
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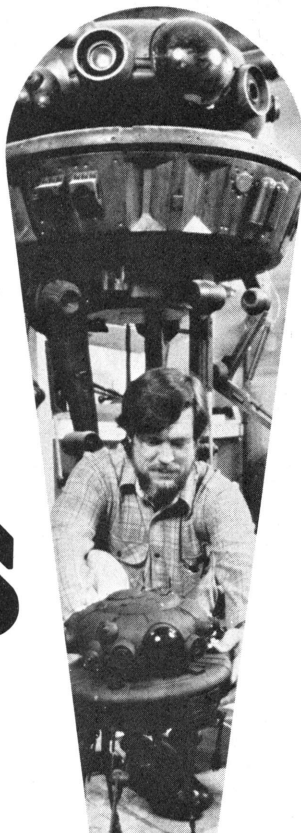
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The actual machine has three monitors and a desk as well as the rack of $\frac{3}{4}$ " video tape recorders. It is designed for easy breakdown and movement into a few components, all of which will fit through a standard 30-inch door. Total weight is about 400 lbs.

EnVision will accept input from character generators, computer graphics terminals, and, as mentioned above, will generate editing path data on standard floppy discs. The EnVision system is compatible with all interested transfer facilities by formatting these discs to run on other electronic editing and post-production equipment.

Behrend will be in charge of the marketing and training programs for EnVision during its initial period of introduction. Prototype production and field trials are scheduled during the Spring of '85.

Behrend sees wide application for the system, not only for feature films, but for industrial and educational films and television commercials. "Where you need quick review of an edited sequence or film style sound editing capability: building up multiple tracks and controlling audio quality in the mix," Behrend also notes that the system should be very useful in editing material for interactive video presentations such as those used in some corporate and government instructional programs.

Plans to make the system available in the international market are under way, but Rady notes that systems made for export will need such additional features as surge protection and wave-form monitoring because of uncertainties in local current supplies.

The EnVision system basic package includes three video cassette recorders, three color monitors, amplifiers, speakers, a six input audio mixer, three SMPTE time code readers and synchronizers, a VITC time code generator, the multiprocessor editor control system and EnVision software, dual eight inch floppy disc drives and $5\frac{1}{4}$ " drives, controller, the touch screen and speed control, the video and audio distribution and switching systems, a sync generator, power supply system, a hard copy dot matrix printer with interface, and the necessary cabinets and racks. The system is complete and ready for an editor to begin work. It even includes a chair to ensure his comfort. ■

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Microfilm Test

What began many years ago as an errand of curiosity, has finally developed into a new application of an old idea. When I first began developing and printing photographs, I tried anything that was new, searching out obscure products and formulas in my quest for excellence. German films, aerial film, high contrast film – anything that would yield fine grain. Push, pull, over- and under-exposure, stain developers, pyro made up from the raw chemistry.

Pyro developer was made from a formula found by a photographer I assisted when he got curious too. It yielded better results, but with increased effort. I never limited my experiments, commercial projects were always done with standard materials, but the tests could involve anything. Copy films with an A.S.A. of 0.5; would produce an exposure wide open, aiming at the sun, but little else. I tried using print films taken from jobs done on my optical printer with some success. The industry seemed to be moving in the opposite direction towards faster and grainier.

Then I met microfilm. I started using it when the need arose to

have a high and medium contrast original for title work which I could standardize.

Looking for an inexpensive way to make reversed 35mm slides to insert into 16mm film on the optical printer, I discovered microfilm filled the bill. It held up to enlargement, and with a change of exposure and developers, would yield a continuous tone image.

The results at first were as variable as the contrast. The tone development process was twice as long and more critical than with standard films. Because of this work I was hired at Warner Bros., in the microfilm department where we shoot, process and print microfilm. When it came time for Warners to update their processor, I bought their old Prostar to further my own research.

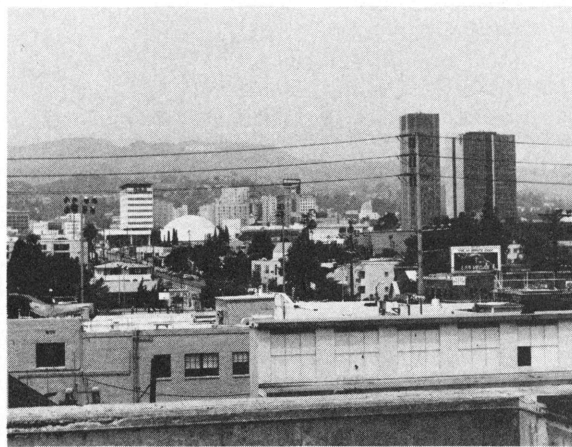
This enabled me to expand my search to include 35mm motion pictures. I believed the remarkable resolving power of microfilm was enough to make a noticeable difference. By Kodak standards, Plus-x will resolve 50 lines per millimeter. Microfilm would resolve between 200 and 300 lpm, better than most lenses. I called around town, hop-

ing the words 'Warner Bros.' would lend credibility to my request for sample film and equipment. They did.

Kodak and Fuji both donated samples and Howard Anderson Co. would supply a camera and crew if I could work around their schedule. A crucial problem arose when the samples arrived. They were both Kodak standard perforations, and most rental cameras used Bell and Howell standard. Luckily, the Mitchell camera Howard Anderson had adapted by Fries Engineering to take an electronic motor and video assist was built to operate using Kodak perfs. These were 50-60 year old movements, used for effects cameras. I was saved by the perfect camera.

Bad registration could have cancelled some of the resolution needed to show a finer image. I had been told only an optical printer camera would run Kodak perfs without jiggle that might destroy the resolution. Anyone who let me run a printer camera at sound speed might have to rebuild it shortly after. Too much to ask. Howard solved that problem.

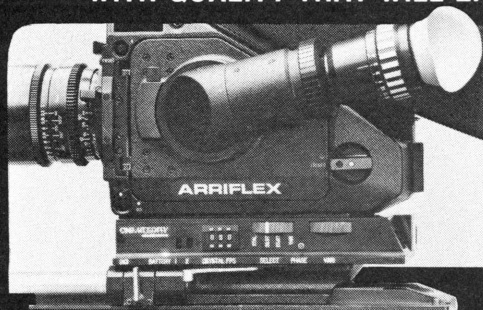
Meanwhile, a short story project I was working on found a backer



Left: A print from the Plus-X negative. Right: A print from microfilm negative.

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who agreed to advance the funds for printing and processing the test in exchange for a look at the second draft of the screenplay. If the test worked out I would use microfilm for the black and white sequences of the film, enhancing it's wide screen appeal. The test began at Howard Anderson's sound stage. All samples were exposed like Plus-x at normal, 1/2 and one full stop over. A cyan filter was used on the one stop over microfilm to control contrast. We then moved outside for an exterior shot. The sun played games with us but provided a nice soft scrim of clouds for diffused light.

The slope of the microfilm is so steep that it needs all the help in the shadow area it can get. When the test was processed, two of the three candidates yielded drastically underexposed negatives. I had over estimated their sensitivity because all my 16mm tests were done at a higher gamma. The lower gamma required for pictorial quality contrast needed more exposure to give a continuous tone look. I had to pull frames from the camera slowdown where increased exposure gave enough detail to make paper prints. To maintain the fine details, a 5366 pan fine grain was made from the Plus-x and the faster microfilm stock. A normal print onto 5302 would not show the increased resolution because the stock would only resolve 50 lpm.

The results are like the difference between 35mm and 8x10 negatives. Remarkable detail and complete absence of grain. The larger the magnification, the better the results. I felt the outcome justified using the faster film for interiors and the slower for exteriors. The slower film needs more testing, but can double as high contrast original for graphics and effects. The door is open to this encredibly fine material even before the lens resolution catches up the imaging power of the film. The beauty of it is that any projector in the world can show the increased resolution with no adaptation. The possibility also exists for an in-camera, sequential, color separation that would register three times the information of one B&W microfilm frame onto a color negative. Research has begun. ■

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Production

The Role of the Camera Assistant

On any film production, from the most modest documentary to the most elaborate theatrical feature, several crew categories are universally held to be vital. Amongst these, the task of assistant cameraman is perhaps the least known publicly. Yet every director of photography considers the job one of the most vital on the set.

Examination of the areas that are the responsibility of the assistant reveals the reason for this high regard. The tasks of the professional assistant embrace three broad areas of enterprise. These are the preparation, filming and post filming, or as they are familiarly known, the prep, shoot and wrap. Naturally these differ with the type of production at hand. Broadly speaking the tasks of the assistant in television commercials, documentary production and theatrical/tv features differs in numerous ways yet in the main have a good many similarities. Let us examine each of these three time periods to see just what it is that a professional assistant contributes to a production.

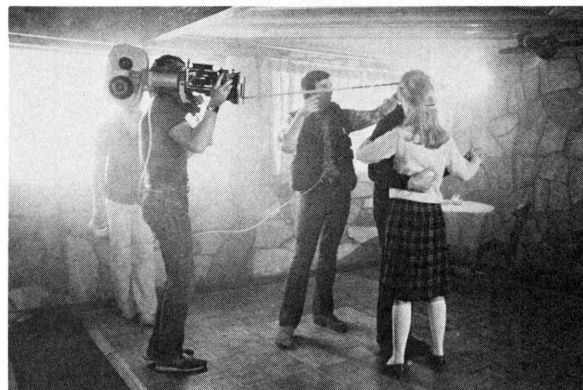
The checking out of the camera, lenses and filters that are to be used on a job are vital down to the most minute detail. To begin with, the camera to be used should be gone over carefully to see that it is mechanically sound. While camera departments of equipment rental houses are generally conscientious, the responsibility for everything functioning perfectly, not almost perfectly, rests with the assistant. The lenses are checked wherever possible with a collimator as a means of determining that they seat correctly and are able to achieve infinity. Lenses are also checked to see that their focusing scales are accurate. Matte boxes, and filter holders are checked for viewing clearance.

Many matters of judgment come into play. For example the assistant knowing that there is to be a

great deal of filter changing would probably opt for spares even though these might not be spelled out in his equipment list. Again the assistant might notice that while much of the job is to be done at night no one has specified an illuminated finder reticle. A professional assistant uses his experience to spot these things and correct them before they become problems.

Motors, both camera and zoom, as well as zoom controls, cables and batteries are all checked for condition, not just looked at, actually run. Wherever possible a film test is shot to see the results of camera/lens/film combination. If batteries as opposed to a power supply are used it is up to the assistant to determine how many are needed. That means taking into account such factors as: whether they are being used outside in cold weather, how much stock is apt to be run, whether there are likely to be long running takes and whether the batteries must also power a TV monitor. The assistant also determines how many magazines are needed; too few is a time waster, too many is just plain burdensome. Of course all of this is quite generalized. Clearly production of a theatrical film which employs a camera loader ie. a second assistant, is very different from a documentary with a small 16mm camera using on-board batteries. Yet the responsibility is no less great. A malfunctioning zoom motor control, or a faulty battery cable would be as crippling to *Tootsie*, as to *Buy a Tootsie Roll*, or *The Tootsie Shor Story*.

Some assistants use prep time to prepare witness marks as the little rectangular or triangular pieces of camera tape, often marked with a center ink line, are known. These are commonly used as references for focus and zoom cues. Additionally, some assistants use this time to prepare neat, legible camera slates. On a simple job



all this can be done in a single day. Naturally, on more elaborate productions involving, for example a foreign location where it might be necessary to record serial numbers and other inventory data, more time would be required. In short all is made ready and nothing is left to chance. This isn't meant to sound grim and excessively fussy, but it is serious and attention to detail here can make or break the filming itself.

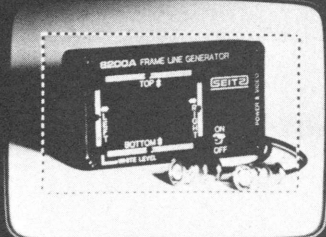
On a shooting day the assistant sets up the camera so that the shot can be lined up, depending on the kind of film that is being made as well as the requirements of the particular director and director of photography. Often the assistant will refrain at this time from warming or threading the camera. The numerous preparations which the camera requires are ongoing and yet may be interrupted. When to act is a matter of judgment. Often it makes sense to wait for a momentary lull in other activity having to do with setting up the shot.

A gross example of mis-timing might be opening the camera door while the director of photography is examining the lighting through the lens. Other examples would be easy to cite. The professional assistant intuitively knows when it's time to jump in and attend the camera. The secret of recog-

Assistant David Diano checks a measurement on a hand held shot for *Irreconcilable Differences*.

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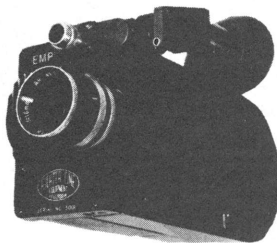


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nizing this moment lies in being alert to what's going on in other quarters. Only in a limited sense is the camera the focus of preparing to shoot. Without readied subject matter the camera is little more than a lovely contraption.

During setup time various notation tapes are affixed to the camera. The magazines are labeled with data relating to the type of stock being used, as well as its length and batch number. Elsewhere, commonly on the matte box, other notations are made containing information relating to filters and sometimes shutter opening. Witness marks are placed where they can be easily accessed. They are used now during set-up and rehearsal time to make zoom and focus notes on the lens. Some cameras have white focus reference disks and these are marked during the rehearsal. This time is also used to see that any dangling camera cables are dressed out of the operator's way.

Some cameras seem to have endless numbers of these between power, zoom, and video monitor feed etc. The care and feeding of the instrument which will record all that is being set up before it is in the hands of the assistant. It is a position of great trust for much of this work is not checked by anyone else, and the next day is too late to discover that something hasn't been done right.

While it is true that the operator sees zoom and focus moves, the subtlety of their execution is very much in the assistant's hands. Ideally they are perfectly coordinated to work as a single entity. During blocking and scene rehearsals the assistant notes actors and camera positions and moves by notations on the lens. Yet commonly, during the take, actors will slightly miss their marks. The skilled assistant notices these small variations and compensates for them. Often these adjustments involve complicated focus splits that must be calculated during the moment of execution. Frequently these adjustments can save a take where the performance was right. The assistant's skill in these matters is unseen, should remain so, and yet ought to be acknowledged and appreciated.

In the case of 16mm photography the assistant must be especially careful of gate "hairs" and must not only check for them frequently but do so

at opportune times. Often there is great enthusiasm and pressure for going on to the next set up. No one wants to hear of gate "hairs". The assistant resists this urge to get on with it until the gate is carefully checked. This is an important moment in 35mm photography. It is an essential one in 16mm. And if a "hair" is found the assistant braves the momentary disappointment felt by all in having to reshoot a scene. No doubt this is one of the least endearing aspects of working in 16mm. In any event the responsibility rests with the assistant for a go ahead or a go again.

Another of the assistant's tasks is to keep track of footage and scene prints. These are a reference for numerous later handling stages of the film by the lab, editors, etc. The lab reports detail which scenes are to be printed as well as developing and printing guidelines. In 16mm photography all scenes are usually printed as labs are reluctant to handle 16mm negative more than is necessary. Sometimes where many setups are being done the assistant is too busy to note "prints" and "no prints" and so collects this information from the script clerk at a later time.

Camera reports are submitted to the lab along with the exposed stock. The assistant sees to it that any developing or printing requests are very clearly labeled. Sometimes different lab order forms are used when footage requires several very different developing or printing methods. The end of the shooting day also sees the assistant overseeing the charging needs of the various batteries that might have been employed to run the camera, zoom or TV monitor. Again this varies widely with the type of production, the size of the crew and so forth. But here again it is up to the assistant to see that it gets done.

Packing the camera up for the day or at the end of the job means in some cases carefully cleaning it of foreign matter, in some cases lubricating it, and in general putting everything carefully away. Properly maintained, a camera should last nearly forever or at least require replacement only when better technology comes along and never for the lack of scrupulous maintenance. It is the professional assistant who makes this a commonly accepted fact. ■

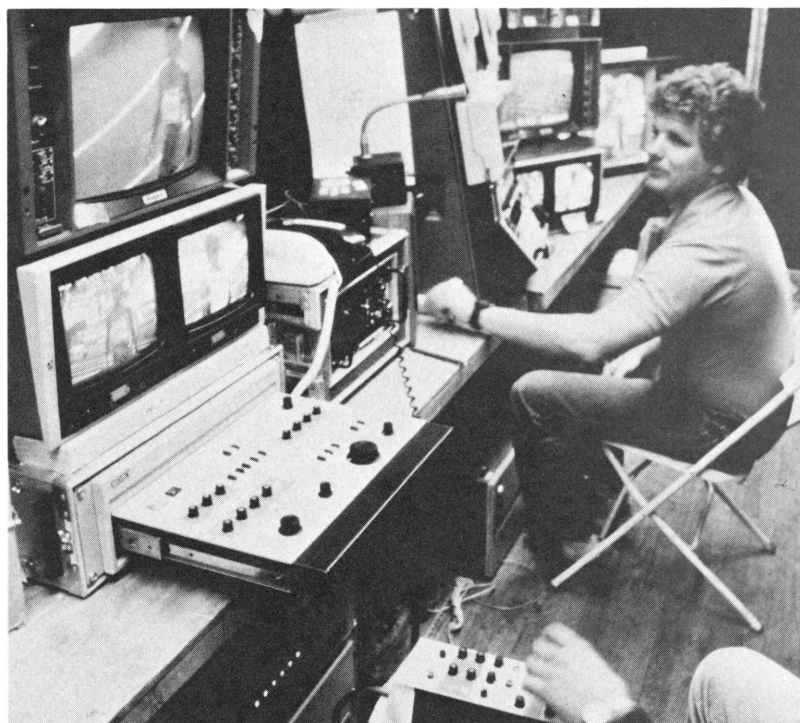
Camera

Video Slow Motion

Viewers of both the Olympics and the World Series this past summer were treated to improved slow motion systems in the instant replay sequences. The system ABC used for the Olympics was dubbed Super Slo Mo and was developed by Sony, using techniques from its high definition video system. The system used by NBC for the World Series was developed by RCA using conventional recorders but with an image from their new CCD camera modified to include a shutter cutting the exposure to 1/500th of a second.

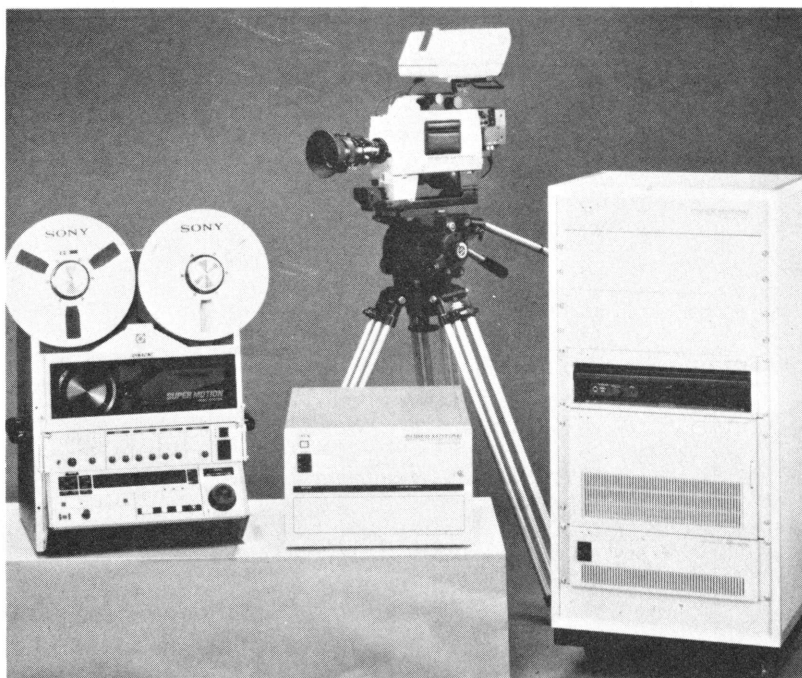
Slow motion effects achieved by altering the playback speed of a 1" type C videotape recorder have been available and used widely in sports broadcasting for some time. One of the attractive features of the type C format for videotape recording is the relative ease with which it can produce still frames and slow motion. A type C recorder is designed with a head in a rotating drum such that it scans one frame of video for each revolution of the drum. This means that if the tape is standing still while the drum continues to rotate, the recorder will play back the same frame continuously. If the tape is moved slowly, it will play back one frame for a while and then move to the next frame. As the tape moves faster the time spent playing back each frame will shorten until it plays back each frame only once resulting in the normal motion of the 30fps speed at which the signal was recorded.

In real life it is not quite this simple since the slight difference between the way the head moves relative to the tape at slow tape speeds and at normal tape speeds results in distortions of the video signal. These distortions can be minimized by moving the head in the drum during each rotation ("dynamic tracking"), and they can be completely corrected by means of a time base corrector. A time base correc-



Above: The Sony Super Motion camera at the Coliseum during the Olympics. Left: The recorder and control unit could be connected to the camera by up to one kilometer of fiber optic cable.

The Sony Super Motion system consists of a camera, recorder, operational control unit, digital processor unit and power supply unit with the possibility of adding a remote control panel for the operational control unit.



tor is generally a device which converts each frame into a digital signal, stores it momentarily and then converts it back into an analog signal in a way that insures that it is no longer distorted by variations in the playback speed of the videotape recorder. Since time base correctors were required anyway to make type C recorders completely feasible for production and broadcast work, it was a relatively simple matter to obtain slow motion by slowing down the tape speed on a type C recorder. Since the drum continues to spin at its normal rate, the recorder puts out 30 frames of video each second, but the content of the frames depends on how fast the tape moves past the drum.

There is, however, a marked difference between the slow motion ob-

tained this way and the slow motion obtained by running a film camera faster than 24fps. What a type C recorder creates is comparable to the kind of slow motion effect created by optically repeating frames from a conventional 24fps shot. What you see in conventional slow motion from a type C recorder is motion in which a fast moving object may be blurred and/or jump from one position to another instead of moving fluidly. The videoese term for this jumping motion is "judder." (Presumably "judder" is derived from jitter and shudder?)

RCA's shuttered version of its CCD camera attacks the problem of the blurring of fast moving objects. The CCD camera (a camera employing solid state "charge coupled devices" instead

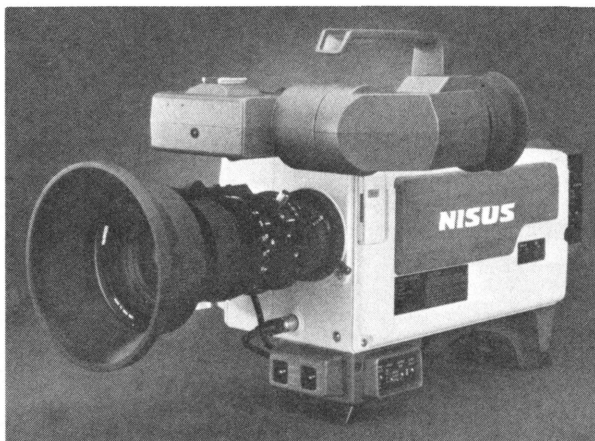
of conventional pickup tubes) was well suited to this task because the CCD is sensitive enough to deal with the light loss and by its very nature is not subject to the lag or smearing associated with pickup tubes. The dynamic resolution (or sharpness of moving objects) is much greater with a CCD image than with the image from a pickup tube. With a shutter restricting the exposure time to 1/500 of a second (as opposed to the 1/30 or 1/60 of a second normally represented by a video frame or field), it becomes possible to see the stitching on the baseball when a pitch is re-played in slow motion. The ball still appears to jump from one position to the next on its way towards the plate, but it is distinct in each position and it is possible to see how it is rotating.

Another company which has been modifying cameras to incorporate shutters is Nisus Video Inc. They began with video cameras used for instrumentation work for the military and are now offering for sale a modified Sony camera which they call the N-3. The N-3 has a continuously variable shutter which can be set for exposures ranging from 1/500 to 1/10,000 of a second. Tests shot by Nisus indicate that shutter speeds of 1/3,000 of a second or faster produce the best results in slow motion playback of fast sports events like diving or gymnastics. They expect to have a similarly modified Ikegami 79E available this year.

The Super Slo Mo system ABC used for the Olympics is called Super Motion by Sony. Sony was commissioned to design the system with the primary objective being the reduction or elimination of "judder" rather than blurring. To achieve this Sony adapted techniques from its high definition video system to create a special super motion camera, optical fiber transmission system and recorder. One of the requirements from ABC was that the slow motion images should be recorded in such a way that the tape could be played back on any conventional type C recorder.

To accomplish this Sony designed the recorder to run three times normal tape speed during the recording and the camera to generate complete frames of video at a rate of 90fps instead of 30. When the tape is played back at normal speed on the same or

The Nisus N-3 is a modified Sony camera with a rotary focal plane shutter capable of speeds from 1/500 to 1/10,000 of a second. It is used in conjunction with a conventional recorder.



any other recorder, the result is fluid slow motion which is the equivalent of film shot at 72 fps.

Another design parameter set by ABC was that the camera be portable and capable of functioning at a normal frame rate so that it could serve as a backup camera in covering the Olympics. Sony achieved this by designing a "black box" which processes the signal coming from the camera before it is fed to the recorder. The camera was connected to the box by up to one kilometer of fiber optics in the form of a small cable.

Using technology from its high definition research and development, Sony was able to design a Super Motion camera using three $\frac{3}{4}$ " mixed field tubes which could operate at 90 frames per second and deliver a 20 MHz RGB signal. This signal is transmitted via fiber optics to the processing unit which digitizes it and then converts it into three parallel or simultaneous analog NTSC signals. These three signals are then each fed to a separate head on the recorder. The recorder drum has three heads located 120° apart instead of the usual single head. Since the tape speed is three times normal and the drum rotation speed is the same as a conventional recorder, the space devoted to each frame on the tape is the same as it would be with a tape recorded on a conventional type C machine. This means that the Super Motion tape can be played back on any machine — although the Super Slo Mo sequences during the Olympics were played back from the Super Motion recorder since they were generally used for instant replay and there was no need to transfer the tape to a different machine. The slow motion tapes were all preserved, however, and can be played back on any machine.

The fact that the tape speed has been tripled while the drum rotation speed remains the same does produce a 2% alteration in the "writing speed" of the recorder or the speed of the tape relative to the recording head. In order not to have this distort the format of the recorded signal, Sony designed the processing unit to compress the signal by 2% before it is fed to the recorder. Again their work in high definition video gave them the means of achieving this signal compression.

The processing unit also performs image enhancement functions and encodes the RGB signals into the NTSC format while the signal is still in a digital form. It then converts it back into an analog signal which can be recorded.

The playback speed of the Super Motion recorder is variable like any other type C recorder. If it plays the tape back at the same speed at which it was recorded, the result will be normal motion. The viewer would in reality be seeing only every third frame of video. If the tape is played back at the normal tape speed, the viewer sees every frame and the effect is absolutely fluid slow motion. If the recorder is slowed down, the slow motion effect is increased. There will be less blurring of motion than there would be with a conventional type C recording slowed down to the same viewing speed because the initial exposure for each frame of Super Motion is one third that of a frame of conventional video. There will be more blurring visible, however, than there would be with a high speed shuttered camera.

The development of Super Motion or Super Slo Mo for ABC was a very well kept secret. Many viewers of the track and field, gymnastics, swimming and diving competitions during the Olympics were surprised by the remarkably fluid slow motion. Athletes would start out full speed in an instant replay and gradually slow down as they approached the finish line or reached the climax of their performance without any of the jerkiness usually associated with slow motion replay. Sony is understandably proud of this achievement and cites it as an immediate benefit to viewers at home of their R & D in high definition video systems.

For further information contact Sony Broadcast Products Co., Sony Drive, Park Ridge, NY 07656 (201) 930-6432; RCA, Building 206-1, Route 38, Cherry Hill, NJ 08358 or Nisus Video Incorporated, 6329 Lomas NE, Albuquerque, NM 87110 (505) 268-4587.

Also for a discussion of super high speed video which is not broadcast compatible see "High Speed Video" in the April 1983 issue of *American Cinematographer*, or in *Electronic Production Techniques*. ■

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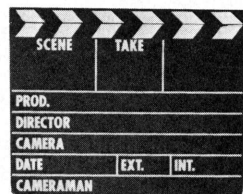
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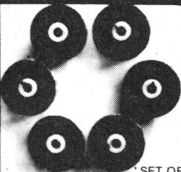
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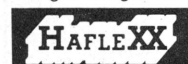
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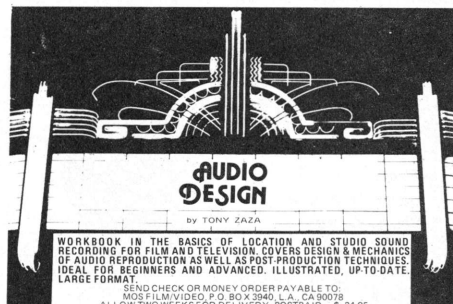
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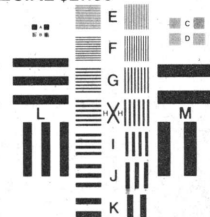
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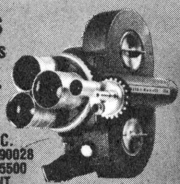
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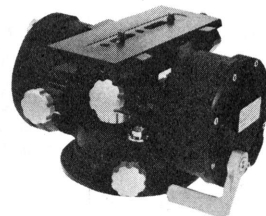
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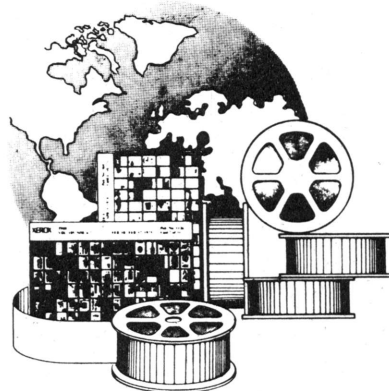


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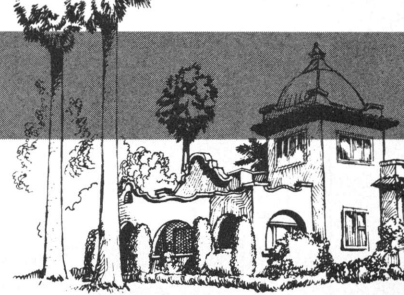
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American Society of Cinematographers

The American Society of Cinematographers is not a labor union or a guild, but is an educational, cultural and professional organization. Membership is by invitation to those who are actively engaged as Directors of Photography and have demonstrated outstanding ability. Not all cinematographers can place the initials ASC after their names. ASC membership has become one of the highest honors that can be bestowed upon a professional cinematographer, a mark of prestige and distinction.

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All of the 1984 Emmy award nominees have been honored equally with Eastman Kodak Company's Crystal Prism awards at a special dinner ceremony. In addition to James Crabe, ASC, who was awarded an Emmy for the TV feature *A Streetcar Named Desire*, and Bill Butler, ASC, a winner for his work in the *Mike Hammer* series, seven other cinematographers received Eastman awards.

These winners are Phil Lathrop, ASC, nominated for *Celebrity*; Harry Stradling Jr., ASC, for *George Washington*; Gayne Rescher, ASC, for *The Day After*; Sherman Kunkel, for *Fame*; Richard L. Rawlings Sr., ASC, for *Dynasty*; and Howard Schwartz, ASC, and Bob Collins for *Air Wolf*.

The award is a faceted crystal prism mounted on an engraved ornamental base bearing the legend, Outstanding Photographic Achievement.

"Like a crystal prism, the talented cinematographer can take ordinary light and transform it into an extraordinary illusion," said John McDonough, Western regional manager of the Motion Picture and Audiovisual Markets Division of Kodak. "It's not an easy task. They must be both artist and craftsman. They create the visual tone and texture for stories which establish the mood for viewers, as well as a sense of time and place. They are also responsible for creating other production values which contribute to the sense of fantasy and illusion needed to keep audiences captivated."

Two ASC Associate Members received Presidential Proclamations at the annual SMPTE Honors and Awards Luncheon in New York City on October 30. Edward H. Reichard, who retired in 1983 after a long career with Consolidated Film Industries, and David W. Samuelson, director of Samuelson Film Service, Ltd., of London, were the honorees.

Reichard was cited for "his active support of the SMPTE over many years, in which he continuously served on the board and on numerous engineering and administrative committees, and for his outstanding contributions as a motion-picture engineer during his career." Samuelson was recognized for "his continued support of the industry on an international level, and his long-standing contributions as a writer and lecturer."

Three leaders in the production of photographic filters were guests at the ASC Clubhouse on December 10 to participate in a special program. Hank Harrison, of Harrison & Harrison Optical Engineers; David Holmes, of Lee Filters Ltd. of England; and Nat Tiffen, of Tiffen Optical Company, presented an in-depth presentation and discussion.

A special panel of ASC members also participated in a session of questions and answers, opinions and sharing of information regarding the history and the future of filters in the field of cinematography. This was the final special projects program of the year. Other programs in the 1984 series included the presentations of Academy Award nominated films for cinematography, a demonstration of Garret Brown's Skycam system, and the presentation of films made by the new honorary members of the ASC, Astronauts Dr. Ron McNair and Captain Bruce McCandless II.

The ASC is proud to be a member organization of the Permanent Charities of the Entertainment Industries, which is celebrating its fortieth anniversary. The late Samuel Goldwyn began working towards the establishment of the committee in 1940, and it launched its first industrywide appeal in 1945. Permanent Charities has provided more than \$60 million for utilization by community health and human services agencies.

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In Memoriam

Frederick E. West, ASC, a cinematographer best known for his work in many American International pictures produced by Roger Corman during the late 1950s, died November 20. He was 81 and lived at Los Osos, California.

Born in Los Angeles in 1903, West worked at various studio jobs for several years before he became a cameraman in 1933. Much of his work was done for independent producers, such as Willis Kent and Jack Coyle, making industrial and religious films. He filmed seven features for Cathedral Films, including *Escape to Egypt*, *Man of the Wilderness* and *Wings of the Wind*. At California Studios he made a series of church pictures that included *Challenge of Faith*, *Return to Nazareth* and *Conflict*.

West was active in TV production from the early days of the industry, working in both 35mm and 16mm, as was customary at that time. He photographed Eddie Bracken's *Willie Wonderful* series, numerous one-shot musicals and dramas, and worked on early dramatic shows such as *Readers Digest Theater*. He was among the first to shoot TV productions in color.

His association with Corman began in 1956 with *The Oklahoma Woman*, an "exploitation" picture which cost little and made a good profit. *Gunslinger*, in Pathe Color, followed. Several of Corman's enormously profitable science fiction and horror pictures, such as *The She Creature*, *Voodoo Woman*, and *Invasion of the Saucer Men* were photographed by West.

West did a great deal of work for television in later years. He became a member of the ASC in 1955 and served on the Board of Directors in 1967. He retired from work in 1968 and moved to Los Osos. Later his back and hip were broken in accidents, requiring corrective surgery, and he suffered a stroke. He went on to active retirement status in the ASC in January, 1984.

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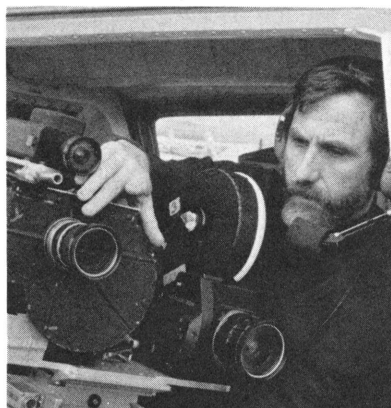
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Personal Favorite

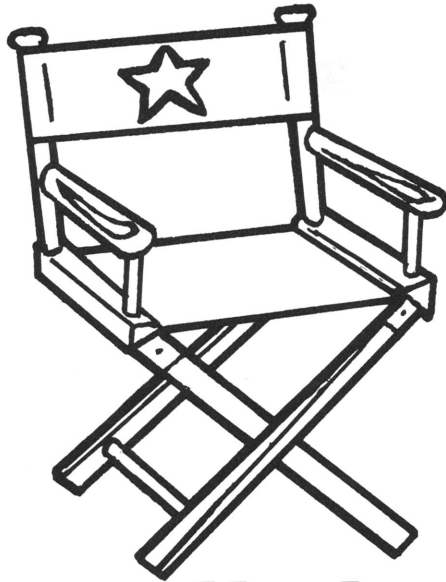
Stanley Cortez's photography on *Night of the Hunter*, starring Lillian Gish, Robert Mitchum and Shelley Winters, always has stood out in my remembrance of so many wonderful and excellently photographed black-and-white features of the 1930s, '40s and early 50s. In this picture Stanley's photography not only enhances the dramatic content but is also responsible for much of the emotional impact and psychological effect on the viewer. His expert use of black-and-white technique and standard format composition, at a time when the U.S. theaters were showing color and wide screen features exclusively, makes *Night of the Hunter* and Cortez's work in it outstanding and distinctive to this day.



Jack Cooperman, ASC, is a specialist in the photographing of aerial shots, underwater action, miniatures and special effects. In 1984 his contributions to *Blue Thunder* and *War Games* as director of miniature photography were considered for recognition by the Academy of Motion Picture Arts and Sciences. His films include *Indiana Jones and the Temple of Doom*, *An Officer and a Gentleman*, *Private Benjamin*, *Raise the Titanic*, *The Golden Seal*, *Winds of War*, *Hill Street Blues* and *Project UFO*. He has received numerous international awards.



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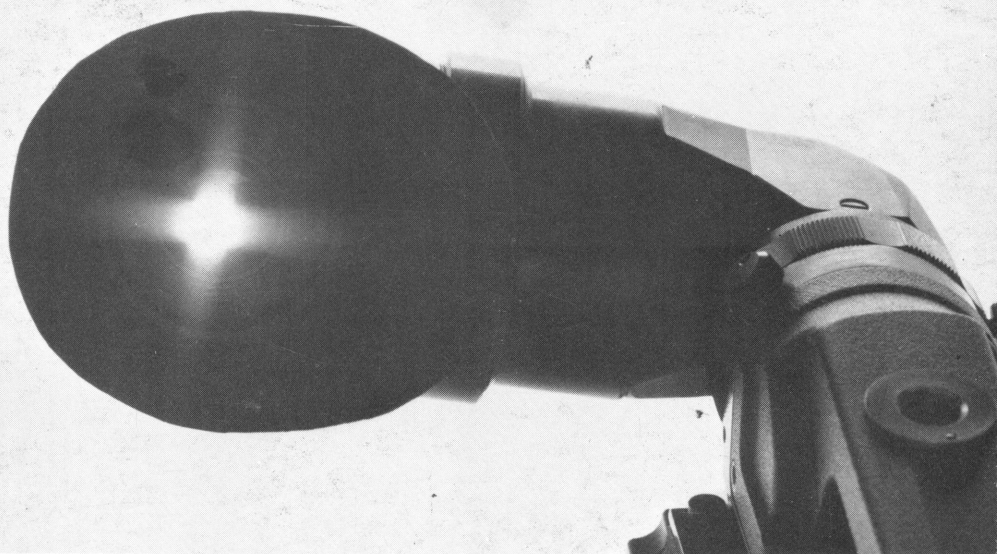


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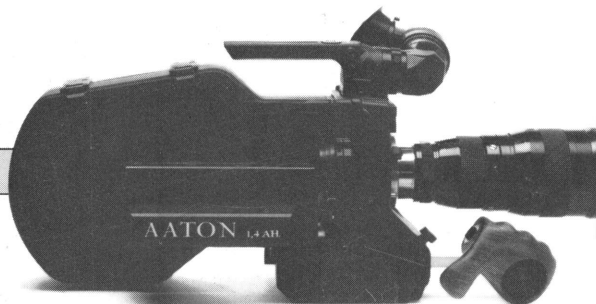


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